

# BEST AVAILABLE COPY

Docket No.: RIC96161

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Haberman et al.

Confirmation No.: 7536

Serial No.: 09/002,187

Art Unit: 2152

Filed: December 21, 1997

Examiner: T. Vu

Title: System and Method for Establishing a Virtual Circuit in an ATM Network

**RECEIVED**  
**OCT 11 2005**  
Technology Center 2100

### **FOURTH STATUS INQUIRY REGARDING PETITION TO WITHDRAW WRONGFUL HOLDING OF ABANDONMENT**

Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

Sir:

This is Applicants FOURTH request for the status of the Petition to Withdraw Holding of Abandonment Under 37 CFR 1.181(a). Please advise us in writing as to the status of the above-noted application.

Applicants filed a Petition to Withdraw Holding of Abandonment Under 37 CFR 1.181(a) on May 10, 2001, and have not yet received a decision on the Petition. Applicants received a telephone call from Jim Alexander (P/OPPD; (703)305-8387) indicating that the official USPTO file was lost. Applicants believe that this may be hindering the decision on the Petition, so Applicants filed a copy of Applicants' file history on September 26, 2003. However, Applicants still have not yet received any type of action in this case.

October 4, 2005, Applicants reviewed the Patent Application Information Retrieval system (PAIR) for the current status on the above-noted application (copy included). Under the File History, there is an entry for "12-09-2004: Mail Reconstruction Notice." However, Applicants submit that the Notice was never received, and hereby petition to have any statutory deadlines restarted.

To expedite the reconstruction of the file, review of the Petition to Withdraw Wrongful Holding of Abandonment and issuance of the application as a patent, Applicants have submitted herewith a true copy of the file history.

The undersigned attests that a search of the file jacket and docket records indicates that the Notice of Reconstruction was never received. Evidence that the Notice mailed on December 9, 2004, was never received is provided in the form of a copy of the docket record showing December 9, 2004, through March 9, 2005 (three months from the date of the action), where the non-received Notice would have been entered had it been received and docketed is attached to this statement.

Applicants therefore petition for withdrawal of the holding of abandonment in the above-identified application under 37 C.F.R. §1.181(a).

According to 37 C.F.R. §1.181(d) and M.P.E.P. 711.03(c), Applicants believe that no fee is due. However, should the Commissioner deem a fee due in connection with this paper, please charge any shortage in fees, including extension of time fees, to Deposit Account 13-2491 and please credit any excess fees to such deposit account.

Should anything further be required, Applicants request that the undersigned be contacted at the telephone number indicated below.

Respectfully submitted,

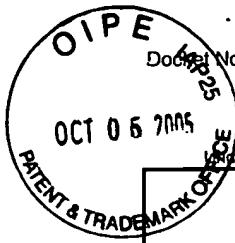


The image shows a handwritten signature in black ink, which appears to read "Eden U. Straight". Below the signature, there is a horizontal line.

Eden U. Straight  
Registration No. 51,205

Date: October 4, 2005

MCI, Inc.  
1133 19<sup>th</sup> Street, NW  
Washington, DC 20036  
Phone: 202 736-6008  
Fax: 202-736-6382



Docket No. RIC96161

OCT 06 2005

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

PTO/SB/92 (09-04)

Approved for use through 07/31/2006. OMB 0561-0031  
Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

RECEIVED

OCT 11 2005

Technology Center 2100

## Certificate of Mailing under 37 CFR 1.8

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to:

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

October 4, 2005

on \_\_\_\_\_  
Date

Marlyn S. Holt

Signature

Marlyn Holt

Typed or printed name of person signing Certificate

202.736.6749

Registration Number, if applicable

Telephone Number

Note: Each paper must have its own certificate of mailing, or this certificate must identify each submitted paper.

1. Fourth Status Inquiry Regarding Petition to Withdraw Wrongful Holding of Abandonment (2 pages);
2. Patent Application Information Retrieval print-out of October 4, 2005;
3. Copy of Docketing Ledger from December 9, 2004 to March 9, 2005; and
4. True Copy of File History for Application Number 09/002,187.

This collection of information is required by 37 CFR 1.8. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1.8 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



## United States Patent and Trademark Office

[Home](#) | [Site Index](#) | [Search](#) | [FAQ](#) | [Glossary](#) | [Guides](#) | [Contacts](#) | [eBusiness](#) | [eBiz alerts](#) | [News](#) | [Help](#)
**PATENT APPLICATION INFORMATION RETRIEVAL**

Search results as of: 10-4-2005:9:4:56 E.T.

Search results for application number: 09/002,187			
Application Number:	09/002,187	Customer Number:	25537
Filing or 371(c) Date:	12-31-1997	Status:	Abandoned -- Failure to Pay Issue Fee
Application Type:	Utility	Status Date:	04-25-2001
Examiner Name:	VU, THONG H	Location:	PUBS - FILE MAINTENANCE FACILITY, BAILEYS X-RD, 308-6789
Group Art Unit:	2152	Location Date:	04-25-2001
Confirmation Number:	7536	Earliest Publication No:	-
Attorney Docket Number:	RIC-96-161	Earliest Publication Date:	-
Class/ Sub-Class:	709/250	Patent Number:	-
First Named Inventor:	RANDY HABERMAN, ARLINGTON, TX (US)	Issue Date of Patent:	-
Title Of Invention:	SYSTEM AND METHOD FOR ESTABLISHING A VIRTUAL CIRCUIT IN AN ATM NETWORK		

## Search Options

Assignments
Image File Wrapper

**File History**

Date	Contents Description
12-09-2004	Mail Reconstruction Notice - Abandoned Application
10-01-2003	File Marked Lost
01-24-2001	Workflow - File Sent to Contractor
05-10-2001	Workflow - Drawings Sent to Contractor
04-25-2001	Mail Notice of Abandonment from Publications
04-25-2001	Abandonment for Failure to Pay Issue Fee
03-20-2001	Workflow - Drawings Sent to Contractor
12-18-2000	Mail Notice of Allowance
12-18-2000	Notice of Allowance Data Verification Completed
12-12-2000	Date Forwarded to Examiner
12-01-2000	Amendment after Final Rejection
10-06-2000	Case Docketed to Examiner in GAU
09-11-2000	Mail Final Rejection (PTOL - 326)
09-10-2000	Final Rejection
07-25-2000	Date Forwarded to Examiner
07-24-2000	Response after Non-Final Action

04-24-2000	Mail Non-Final Rejection
04-21-2000	Non-Final Rejection
02-23-2000	Date Forwarded to Examiner
02-15-2000	Response after Non-Final Action
02-15-2000	Request for Extension of Time - Granted
08-04-1999	Mail Non-Final Rejection
08-02-1999	Non-Final Rejection
08-19-1998	Petition Decision - Granted
07-28-1998	Petition Entered
07-09-1998	Case Docketed to Examiner in GAU
06-10-1998	Application Is Now Complete
04-02-1998	Notice Mailed—Application Incomplete—Filing Date Assigned
03-27-1998	IFW Scan & PACR Auto Security Review
06-05-1998	Preexamination Location Change
02-04-1998	Initial Exam Team nn

WednesdayFrom PTO

08/100,000  
08/111,024  
Official Published Patent  
Official Published Patent

09/413,269  
09/514,074  
09/708,069  
10/114,939  
09/733,501  
09/783,480  
09/469,506  
09/670,365

To PTO

10/944,253 (cc)

Notice of Abandonment  
Surreptitious action  
non-final office action  
Return Postcard (from kathy)  
Return Postcard (from kathy)  
Return Postcard (from kathy)  
Return Postcard (from kathy)  
Return Postcard (from kathy)

09/406,910 (cc)

Patent Appeal, (trans to kathy) btr, cert of mail, filed  
11/30/2004 by Dittmarry & Carlson  
Amend/reply, (trans to kathy) btr,  
cert of mail, filed 12/3/2004 by  
Dittmarry & Carlson

09/983,689 (cc)

Amend/reply, (trans to kathy) btr,  
cert of mail, filed 12/12/2004 by  
Dittmarry & Carlson

10/051,182 (cc)

Amend/reply, (trans to kathy) btr,  
cert of mail, filed 11/29/2004 by  
Dittmarry & Carlson

ThursdayFrom PTO

Notice of Abandonment  
Surreptitious action  
non-final office action  
Return Postcard (from kathy)  
Return Postcard (from kathy)  
Return Postcard (from kathy)

09/413,269  
09/514,074  
09/708,069  
10/114,939  
09/733,501  
09/783,480  
09/469,506  
09/670,365

To PTO

10/944,253 (cc)

Patent Appeal, (trans to kathy) btr, cert of mail, filed  
11/30/2004 by Dittmarry & Carlson  
Amend/reply, (trans to kathy) btr,  
cert of mail, filed 12/3/2004 by  
Dittmarry & Carlson

09/406,910 (cc)

Amend/reply, (trans to kathy) btr,  
cert of mail, filed 12/12/2004 by  
Dittmarry & Carlson

09/983,689 (cc)

Amend/reply, (trans to kathy) btr,  
cert of mail, filed 11/29/2004 by  
Dittmarry & Carlson

December 9, 2004

Friday

December 19, 2004

From PTO

10/864, 670  
10/873, 715  
09/099, 384  
09/903, 571  
09/708, 068

To PTO

09/950, 025 (AC)

09/435 540 (MAY)

Notice of Appeal Filed  
Notice of Appeal Filed  
Notice of Abandonment  
Request/Effect Requested  
Non-Serial Office Action

RCE; postcard filed 12/16/04  
by Hartley E. Breyer  
RCE to withdraw from Case  
RCE IDS PTO 1449, help out  
of trans, fax confirm, USPTO  
auto-reply confirm

Monday

December 13, 2004

From PTO

To PTO

Tuesday

December 14, 2004

From PTO

09/373, 304  
10/330, 707  
09/906, 532

Notice of Abandonment  
Spec Comm Regarding TDS  
Non-Use of Service Section

26 PTO

09/859, 337 (OC)

Notice of appeal fee (trans)  
act of mail filed by  
attorneys of record on  
12/6/2004  
RCE, amount of \$100, fee  
trans act of mail, file  
12/7/2004 by attorney  
of record

09/049, 226 (OC)

Record cert of name change USPTO -  
MEI, PTO 1545, fax confirm  
around 10/27/2004 (trans & fax handled by  
postcard) filed by attorney/  
by fax on 12/9/2004

10/101, 199 (OC)

Amend right (trans & fax trans) by  
postcard filed by attorney & by fax  
on 12/16/2004

09/151, 404 (EUS)

PTO 1449 USPTO acknowledgement  
from c-TDS, fee trans;  
USPTO acknowledgement  
TDS PRO1449, fee trans; USPTO acknowledge-  
ment from e-TDS  
09/159, 695 (EUS)

09/160, 844 (EUS)

TDS PRO1449, fee trans c - TDS; confirmation

Wednesday

December 15, 2004

From PTO

09/598, 167 (MTO)

(09/159, 514)

10/648, 437 (OC)

09/170, 077 (OC)

PTO 1545, fax confirm  
paid by CTO via RCE, TDS PRO1449,  
refd, cert of hand-deliver, postcard

09/170, 476 (OC)

Thursday  
From PTO

10/059, 057  
10/060, 057  
09/159, 095

Updated filing Rpt  
Notice of recordation  
Final Office Action

December 16, 2004

Friday

From PTO

10/054, 544  
09/024, 167  
10/023, 043  
09/097, 860  
09/159, 514

Notice of recordation  
Final Office Action  
Final Office Action  
Non-final Office Action  
Notice of Recordation (via fax)

To PTO

10/302, 159 (cc)

Amend/Reply (transferred trans) file  
postcard filed by Party; Snyder  
on 12/15/2004

10/013, 079 (cc)

Amend/Reply Demand Disclaimers  
(transferred trans) file postcard filed  
by 12/15/2004 by Party; Snyder

09/531, 003 (FNM)

Power of execution of attorney and of  
trans. fax confirm, USPTO  
auto-Rep by confirm

December 17, 2004

December 29, 2004Monday

From PTO  
 09/163, 337  
 10/020, 893  
 09/409, 500

Closure Notification  
 Closure Verification  
 Notice of Allowance & Claim Amendments

To PTO

09/159, 404 (EUS)  
 IDS, PTO 1449, USPTO e-IDS  
 confirmation. Note: e-IPS  
 actually filed 12/19/2004 but  
 confirmation was date stamp  
 12/30/2004, per Trans.

09/159, 695 (EUS)

IDS, PTO 1449, few Trans, e-IPS  
 confirmation. Note: e-IPS actually  
 filed 12/19/2004 but confirmation  
 (same date stamp of 12/30/2004)

To PTO

10/621, 000 (RPP/ANT)

Reiss/Perry of Attorney, 3.13(B)  
 Statement of Basis for Confirmation  
 USPTO and Reply Confirmation

09/723, 402 (EUS)

IDS, PTO 1449, few Trans, e-IPS  
 confirmation

09/725, 401 (EUS)

IDS, PTO 1449, few Trans, e-IPS  
 confirmation

09/725, 501 (EUS)

IDS, PTO 1449 few Trans, e-IPS  
 confirmation

09/723, 400 (EUS)

IDS, PTO 1449 few Trans, e-IPS  
 confirmation

Tuesday

From PTO  
 09/708, 077

December 21, 2004

Decision on Petition (with Answer)  
 Decision on Petition (without Answer)

15

Wednesday

From PTO

10/082, 657  
09/575, 770  
09/748, 880 and

Notice of appeal filed  
Non-Suit Appeal action  
Notice of appeal & Clause 2a Due

To PTO

09/636, 146 (EUS)

IDS, PTO144, e-IDS confirm;

2e PTO

09/539, 203 (EUS)

IDS, PTO144, e-IDS confirm;

09/431, 590 (EUS)

IDS, PTO144, e-IDS confirm;

Transmit by Trans, Hang  
call of trans, fax conform  
USPTO Auto-Reply confirm

Transmit by Trans, Hang  
call of trans, fax conform  
USPTO Auto-Reply confirm

Thursday  
December 23, 2004

From PTO

Notice of appeal filed  
Non-Suit Appeal action  
Notice of appeal & Clause 2a Due

Friday

December 24, 2004

COMPANY HOLIDAY  
OFFICE CLOSED  
FEDERAL HOLIDAY

Monday  
From PTO

09/059, 337  
10/944, 253  
10/318, 713  
10/953, 022  
10/040, 236  
09/406, 910  
09/985, 609  
10/440, 598  
09/420, 038  
10/865, 465  
10/199, 950

To PTO

09/036, 581 (a)

10/404, 104 (ac)

COS99054 C1 (a)

Return Postcard (from Kelt)  
Notice of Abandonment  
Notice of Abandonment  
Notice of Recordation  
Notice of Recordation  
Non-Judicial Office Action (from Kelt  
Kelt)

Arrived/Replied (trans & rec'd by  
cert of mail) filed on 12/1/2004 by  
DeLetha Wong, Esq (caron)

Arrived/Replied (trans & rec'd by  
cert of mail) filed 12/1/2004 by  
DeLetha Wong, Esq (caron)

Continuation applies w/ 35990 species &  
list of drugs, etc (trans & rec'd by  
DeLetha Wong, Esq (caron))  
Dec, Post office, copy of cert of  
trans & rec'd from Nelli - WCRN - REC  
act of service, filed by PTC on 12/1/2004

December 27, 2004

31

Monday (cont.)

December 27, 2004 (cont.)

From PTO (cont.)

10/991, 515/  
10/991, 516  
09/301, 34/  
09/761, 416  
10/889, 12B  
10/019, 323

Notice Rept  
String Reel  
Notice of abandonment  
Decl of ptnt to withdraw from (and  
Notice Office Pat (from H&S)  
Non-Serial Office Action

10/021, 090 (OC)

Do PTO (cont.)

09/036, 147 (EUS)

IDS, PTO 1449, 2 doc'd, trans  
cert of trans, fax confirm,  
USPTO - Auto-Reply confirm

09/036, 146 (EUS)

IDS, PTO 1449, 2 doc'd, trans  
cert of trans, fax confirm,  
USPTO Auto-Reply confirm

Do PTO (cont.)

10/039, 430 (EUS)

Script applic. date sheet, trans  
cert of trans, fax confirm, USPTO  
auto-reply confirm

10/021, 090 (OC)

Amend/reply (trans & fee trans),  
cert of mail filed 12/21/2004  
by Pittaway & Carlson

10/115, 251 (OC)

Amend/reply (trans & trans),  
cert of mail filed 12/20/2004  
by Pittaway & Carlson

SKY04003 (OC)

Util applic w/ 35 pp spec, b sheet  
drawn dec, applic date sheet,  
PTO/595 assign, util trans,  
fee trans, cert of express mail  
filed on 12/16/2004 by Pittaway  
& Carlson

Monday (cont.)

December 27, 2004 (cont.)

IDS, PTO 1449, 2 doc'd, trans

cert of trans, fax confirm,

USPTO - Auto-Reply confirm

Request for corrected recordation w/  
copy of notice of Recordation - w/  
correction noted in red, copy of  
msg PTO/595, copy of msg expected  
assign by Richard C. Sirel, fax  
confirm, USPTO auto-Reply  
confirm

10/050, 501 (EUS)

Amend/reply (trans & trans),  
cert of mail filed 12/21/2004  
by Pittaway & Carlson

Amend/reply (trans & trans),  
cert of mail filed 12/20/2004  
by Pittaway & Carlson

50

Tuesday

December 28, 2004

From PTO

40/637 465  
49/904 365  
16/763 298

Return Postcard  
Non-Serial Office Action  
Final Office Action

Wednesday  
From PTO

09/159 406  
10/097 863  
10/097 862

Notice of Recordation (var band)  
Non-Serial Office Action  
Non-Serial Office Action

To PTO

09/159 406 (CWS)

Record cert of name NCOM-NCT  
PTO 1595 / USP TO Electronic  
confirmation

CWS 90 021 C1 (OC)

Continuation application filed  
a Serial drug, I am nullified drug  
label 5 P.O. sub 4 FP 1st, Aplic  
data sheet IP, PTO 1449, Prelim  
amend stat (trans & rec) trans  
postcard, filed on 12/27/2004  
by 1/1/05, by 1/1/05

51

December 29, 2004

Notice of Recordation (var band)  
Non-Serial Office Action  
Non-Serial Office Action

5:20 AM Dec  
Thursday

December 30, 2004

Friday

December 31, 2004

From PTO  
09/539, 803  
08/569, 051  
09/332, 777  
16/889, 051  
10/091, 002  
10/047, 684

Notice regarding PTA (current accepted)  
Notice Regarding PTA (current accepted)  
Notice of Notification  
Notice of specific PTA  
Non-Initial Office Action  
Notice of abandonment

OFFICE CLOSED

FEDERAL HOLIDAY  
COMPANY HOLIDAY

Mondau

From PTC

Re PTC

Continuation applic w/ 65ppd  
spec; 21st inst Aug 1 dec.  
copy of new/old petition denied  
applic dict strict, only if  
chts of name change, which = MC  
will stand for trans' act  
of express mail filed  
12/30/004 by Bellawong  
e. Carlson

January 3, 2005

Tuesday

January 4, 2005

Tuesday (cont.)

January 4, 2005 (cont.)

From PTO

10/08/04, 120  
10/17/04, 616  
10/06/04, 386

Concluded filing Rec't  
Non-Serial Office Action  
Notice of Reconsideration

CRS 97160 C.R. (AC)

Continuation application w/ 6/9/04  
spec., 17 sheets drawing,  
disc., copy of rec'd. /fit/  
applic data sheet, prelim/  
amend, cert of name change  
M.I.W. & W.C. - SMC, file  
trans, fee trans, cert of  
express mail, filed 12/23/2004  
by Attorney & Counselor

See PTO (cont.)

To PTO

09/14/04, 361 (AC)

Amended Recept. from S. Lee Hwang  
one of the drawings  
Cert of ~~spec.~~ mail, filed  
by Attorney &  
Counselor

10/03/04, 800 (AC)

Amended Recept. from S. Lee Hwang  
Terminal disclaimer, filed  
fee trans, cert of mail, filed  
12/13/2004 by Attorney  
& Counselor



Thursday (cont.)

To PTO (cont.)

Fridays

January 7, 2005

10/15/04

PTO 1515, Act of Name  
Change from WCOM &  
MC, Inc., electric  
USPTO confirmation, C-IDS  
USPTO electronic confirm,  
IDX, PTO 1449

do PTO

10/13/04 (EUS)

c-IDS, PTO 1449, USPTO  
electronic confirmation

10/13/04 (EUS)

c-IDS, PTO 1449, USPTO  
electronic confirmation

10/16/04 (EUS)

c-IDS, PTO 1449, USPTO  
electronic confirmation

10/13/04 (EUS)

c-IDS, PTO 1449, USPTO  
electronic confirmation

10/13/04 (EUS)

c-IDS, PTO 1449, USPTO  
electronic confirmation

10/13/04 (EUS)

c-IDS, PTO 1449, USPTO  
electronic confirmation

SundayFrom PTOMonday

<u>To PTO</u>	10/404, 112 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 091 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 079 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 074 (eis)	e-IDS, PTO 1449, USPTO electronic confirm
	10/404, 111 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 093 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 075 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 076 (eis)	e-IDS, PTO 1449, USPTO electronic confirm
	10/404, 110 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 094 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 077 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 078 (eis)	e-IDS, PTO 1449, USPTO electronic confirm
	10/404, 095 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 096 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 079 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 080 (eis)	e-IDS, PTO 1449, USPTO electronic confirm
	10/404, 097 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 098 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 081 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 082 (eis)	e-IDS, PTO 1449, USPTO electronic confirm
	10/404, 099 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 090 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 083 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 084 (eis)	e-IDS, PTO 1449, USPTO electronic confirm
	10/404, 091 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 092 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 085 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 086 (eis)	e-IDS, PTO 1449, USPTO electronic confirm
	10/404, 093 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 094 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 087 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 088 (eis)	e-IDS, PTO 1449, USPTO electronic confirm
	10/404, 096 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 097 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 090 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 091 (eis)	e-IDS, PTO 1449, USPTO electronic confirm
	10/404, 098 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 099 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 092 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 093 (eis)	e-IDS, PTO 1449, USPTO electronic confirm
	10/404, 095 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 096 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 098 (eis)	e-IDS, PTO 1449, USPTO electronic confirm	10/404, 099 (eis)	e-IDS, PTO 1449, USPTO electronic confirm

January 10, 2005

10/966, 041  
Rept  
Advisory Action  
Comments, Signal Appeal  
Non-final Office Action  
Notice of Interference  
Notice of Consideration (Inv/Pat)  
Notice of Reconsideration (Inv/Pat)



Wednesday  
January 12, 2005

Item PTO

10/135, 439  
09/332, 777

Yield of abandoned  
Official Published Patent  
0.

Re PTO

10/379, 816 (cc)

Answer/reply (phone & fax)  
many late, forwarded,  
filed 1/10/2005 by  
Nativity & Snyder

10/385, 249 (cc)

c-IDS, PTO 1449, electronic  
USPTO confirm

10/843, 254 (cc)

c-IDS, PTO 1449, USPTO  
electronic confirm

10/946, 101 (cc)

c-IDS, PTO 1449, USPTO  
electronic confirm

10/095, 954 (cc)

c-IDS, PTO 1449, USPTO  
electronic confirm

10/095, 910 (cc)

c-IDS, PTO 1449, USPTO  
electronic confirm

10/085, 908 (cc)

c-IDS PTO 1449 USPTO  
electronic confirm

13 (cont.)  
January 13, 2005

Wednesday (cont.)

Re PTO (cont.)

10/021, 920 (cc)

c-IDS, PTO 1449,  
USPTO electronic confirm

an<sup>2</sup> 10 09/706, 973 (cc)

c-IDS, PTO 1449, USPTO  
electronic confirm

09/708, 069 (cc)

c-IDS, PTO 1449, USPTO  
electronic confirm

Thursday  
January 13, 2005

Ecology  
012

From PTO

09/062, 051

From Printed Revision of  
Non-Public/IV Notice of Action  
Hearing  
Hearing Report  
Updated Hearing Report  
Updated Hearing Report

60/637, 405  
10/758, 769  
10/758, 768

To PTO

To PTO

Appeal Brief, (Transcript Pending)  
etc., etc., if postcard filed by  
Hearings & Appeals on 1/1/2005  
Concert/Reply Brief (Transcript Pending)  
etc., postcard filed by  
Hearings & Appeals 1/7/2005

09/061, 699 (OC)

10/390, 727 (OC)  
etc., etc., if postcard filed by  
Hearings & Appeals on 1/1/2005  
etc., postcard filed by  
Hearings & Appeals 1/7/2005

10/440, 539 (OC)

Appeal Brief, (Transcript Pending)  
etc., etc., if postcard filed by  
Hearings & Appeals on 1/1/2005  
etc., postcard filed by  
Hearings & Appeals 1/7/2005

Monday

January 17, 2005

FEDERAL

COMPANY HOLIDAY

Tuesday

VACATION PTO

Wednesday

JANUARY 18, 2005

1h PTO

Wednesday

January 19, 2005

Tuesday

January 26, 2005

Yuan PTO

09/040, 360  
10/008, 137  
10/335, 241  
10/975, 315  
10/975, 971  
10/975, 214  
10/921, 920  
10/044, 563

570

09/435, 540 (11/19)

Police Officer	60/627, 785	Hilling Kestrel
Police of Patterson - Spaldin	09/945, 587	Staged Tilt of Alluvium
Police Kestrel	10/045, 880	Yield of Abandoned Yields of Abandoned
Police Kestrel	09/441, 008	Discern from Pastoral (from Hilling Kestrel)
Hilling Kestrel	09/016, 446	Yield of Pastoral (from Kestrel)
Hilling Kestrel	10/077, 368	Yield of Pastoral (from Kestrel)
Hilling Kestrel	09/433, 530	Yield of Pastoral (from Kestrel)
Hilling Kestrel	09/444, 301	Yield of Pastoral (from Kestrel)
Hilling Kestrel	09/036, 589	Yield of Pastoral (from Kestrel)
Hilling Kestrel	10/141, 104	Yield of Pastoral (from Kestrel)
Hilling Kestrel	10/031, 861	Yield of Pastoral (from Kestrel)
Hilling Kestrel	10/121, 049	Yield of Pastoral (from Kestrel)
Hilling Kestrel	11/016, 151	Yield of Pastoral (from Kestrel)
Hilling Kestrel	11/016, 151	Yield of Pastoral (from Kestrel)
Hilling Kestrel	09/115, 351	Yield of Pastoral (from Kestrel)
Hilling Kestrel	10/115, 259	Yield of Pastoral (from Kestrel)
Hilling Kestrel	10/045, 071	Yield of Pastoral (from Kestrel)
Hilling Kestrel	11/014, 366	Yield of Pastoral (from Kestrel)
Hilling Kestrel	10/051, 182	Yield of Pastoral (from Kestrel)

200 P.TU

10/27/09, 093 (EUS)

卷之三

*19/09/1981* **863 (EHS)** *c-IDS, p-6443, LSPR*

卷之三



2

January 24, 2005TuesdayFrom PTO09/123, 400  
10/016, 110  
10/132, 372Priority action  
Non-Serial Office Action  
Non-Serial Office ActionTo PTO09/057, 004 (ai) - General Right, (three & five  
three) day period filed  
by attorney & agent, 1/1/05  
no E.O.T.09/068, 070 (DIO) - List of names change  
MIN-MIN & MINT M  
MCI, 4/10 15/05 - file  
confirmed10/015, 545  
10/079, 093  
08/045, 915  
29/575, 70  
10/110, 000To PTO10/089, 120 (EUS) - C-IDS, PTO 1449, USPTO  
Electronic system  
10/114, 375 (EUS) - C-IDS, PTO 1449, USPTO  
Electronic systemHiring Rept  
Hiring Rep  
Notice of Allowance  
Non-Serial Office Action  
Non-Serial Office ActionHiring Rept  
Hiring Rep  
Notice of Allowance  
Non-Serial Office Action  
Non-Serial Office ActionJanuary 25, 2005

Wednesday  
January 26, 2005

From PTO

08/560, 051  
07/435, 540

09/690, 995

09/489, 1225  
10/423, 194  
09/acc, 770  
09/382, 951

Notice of Abandonment  
Non-Serial Office Action  
Notice of Allowance & Issue Fee Due  
Notice of Record Projected  
Update Cut-Off Date

10/756, 930  
Updated Billing Rept.

09/159, 403 (EUS)

09/430, 657 (EUS)

09/442, 199 (EUS)

To PTO

10/007, 068 (EUS)  
Notice of Allowance, cert of  
Issue, fax confirm, USPTO  
Auto-Retry confirm, copies  
of issue fee report, copies

10/007, 314  
09/397, 325 (EUS)  
Aut.

Notice of Allowance, cert of  
Issue, fax confirm, USPTO  
Auto-Retry confirm, copies  
of issue fee report, copies

Notice of Allowance, cert of  
Issue, fax confirm, USPTO  
Auto-Retry confirm, copies  
of issue fee report, copies

09/397, 325 (EUS)

10/441, 610 (EUS)  
Aut.

Notice of Allowance, cert of  
Issue, fax confirm, USPTO  
Auto-Retry confirm, copies  
of issue fee report, copies

10/441, 549 (EUS)  
Aut.

Notice of Allowance, cert of  
Issue, fax confirm, USPTO  
Auto-Retry confirm, copies  
of issue fee report, copies

Notice of Allowance, cert of  
Issue, fax confirm, USPTO  
Auto-Retry confirm, copies  
of issue fee report, copies

10/441, 549 (EUS)

10/159, 503 (EUS)  
Notice of Allowance, cert of  
Issue, fax confirm, USPTO  
Auto-Retry confirm, copies  
of issue fee report, copies

Notice of Allowance, cert of  
Issue, fax confirm, USPTO  
Auto-Retry confirm, copies  
of issue fee report, copies

Aut.

Notice of Allowance, cert of  
Issue, fax confirm, USPTO  
Auto-Retry confirm, copies  
of issue fee report, copies

Aut.

Notice of Allowance, cert of  
Issue, fax confirm, USPTO  
Auto-Retry confirm, copies  
of issue fee report, copies

Wednesday (cont.)

20 PTO (cont.)

January 26, 2005  
(cont.)

Wednesday (cont.)

January 26, 2015 (cont.)

### Weilnissdorff (cont.)

Annual of 26, 2005 (cont.)

20/9/33, 461 (EIS)

100/947,577 (EUS)      100/947,577 (EUS)

Sticker: Property, cost of  
freight, for confection,  
1/15/70 Vick-Tigley Confection  
Co., signed & seal of postmaster

Sticker: Property, cost of  
freight, for confection,  
1/15/70 Vick-Tigley Confection  
Co., signed & seal of postmaster

00/947,577(EUS)

Alaska Territory: last 50  
years, 1900-1950,  
list to add supply caption;  
add registered names if patient

John J. Rogers and  
Henry G. P. de la Peña  
concerned regard to  
PCC

Stable (possibly) *site* of  
decay by *Coprinus*, LSP 72  
child - highly confirmatory  
as regards its reply failed

Labrador Tundra, cert. of  
island, for confirming, 65°20'  
Title Rocky Colletary, of  
assigned to the gravel.

卷之三

Sticker, Frequency, List of  
Places for Survey,  
115770 Little Shady Cofin  
M. signed & has it pasted

11/223 955 (AC)  
10/276 323 (AC)

10/17/2023 (CC)

$\phi_1(\theta_{23}) \neq \phi_1(\theta_{13})$

09/12/501 (6)

10/230, 787 (65%)

卷之三

Friend / Evelyn (Hans) Speer  
Franklin Co., Dist. of Columbia,  
July 16/1925 by  
Dulhacon, C. (C. L. C.)

and friend fighters believe if  
England, and if most people  
of us here by following  
our religion

Police of Aprial, cert of mail,  
filed 11/10/1935 by  
William J. Carson  
State Lawyer for opie

USPTO - Anti-Spy Confirms  
of France, Paris, 15/2/2004, art.  
of France, Paris, 15/2/2004, art.



Friday (cont.)

January 29, 2005 (cont.)

To PTO (cont.)

From PTO

Monday

January 31, 2005

OKL04001 (56)

Ultrasonic w/ 2019 spec,  
4 sheets drawing, disc, Apple  
data sheet, PTO 1595, sonifying  
ITS, PTO 1449, reply  
file (trans & fax forwarded,  
J. retransf.).

OKL04001 (56)

Ultrasonic w/ 2019 spec,  
6 sheets drawing, disc, Apple  
data sheet - PTO 1595, assign,  
ITS, PTO 1449, reply, utilization  
of fast track, filing, postcard.

10 PTO

10 PTO

PTN TEMP, 4 no EDI substitute  
figures, copy of NTFMP,  
cost of trans, USPTO add reply  
confirm, fax confirm

February 1, 2005WednesdayFebruary 2, 2005From PTO

10/090, 230  
09/608, 031  
10/036, 667

Notice of Recordation  
Notice of Abandonment  
and Notice Advisory Action

10/090, 427  
10/059, 463

Not of Allow & Document Due  
Decision on Petition Dismissed

To PTO

10/024, 920 (eus)

3.73(6) Stewart Power/Electronics Int'l  
Act of Trans, fax confirm,  
USPTO auto reply confirm

10/043, 705 (eus)

3.73(6) Stewart, Powers/PMI,  
Act of Trans, fax confirm,  
USPTO auto reply confirm

10/066, 841 (eus)

RTNTFMP, copy of NT FMP  
doc, file frame, act of trans  
fax confirm, USPTO Auto -  
Refer Continue.

34

Wednesday (cont.)

To PTO (cont.)

February 2, 2005 (cont.)

Wednesday (cont.)

Do PTO (cont.)

09/575, 470 (eas)

Reply to Office action

w/mile date of 12/01/04  
cert of trans, fax confirm,  
USPTO auto - reply  
confirm.

11/083, 953 (eas)

IDS, PTO 1449, trans,  
cert of trans, fax confirm,  
USPTO auto - reply  
confirm.

09/575, 469 (eas)

IDS, PTO 1449, trans,  
cert of mail, fax confirm,  
USPTO auto - reply  
confirm.

10/041, 549 (eas)

Request Withdrawal of  
holding of abandonment w/  
copy of debt - charged  
abandonment protest  
no fuel oil/gas  
f. reply cert of trans,  
fax confirm, USPTO auto - reply  
confirm.

10/045, 880 (eas)

Request withdrawal of  
holding of abandonment  
w/ cause of USPTO auto - reply  
(copy), Clean Site Payment  
trans, Clean Site Drawing  
filled 9/7/2004, cert of trans,  
fax confirm, USPTO auto - reply

February 2, 2005 (cont.)

10/230, 707 (eas)

Petition to withdraw from  
Clean Site, TDS, PTO 1449  
cert of trans, fax confirm,  
USPTO auto - reply confirm.

09/564, 876 (eas)

Petition to withdraw from  
Clean Site, TDS, PTO 1449  
cert of trans, fax confirm,  
USPTO auto - reply confirm.

08/751, 668 (eas)

States Agency, cert of  
trans, fax confirm,  
USPTO auto - reply confirm  
⇒ Submission of new info

11/030, 656 (eas)

⇒ RIN 7405, copy of PTO file  
copy of doc from parent agency,  
3.73 statement, prior/pres,  
copy of decision on 1-17 from  
parent, trans, cert of trans,  
fax confirm, USPTO auto - reply  
confirm.

10/045, 880 (eas)

Request withdrawal of  
holding of abandonment  
w/ cause of USPTO auto - reply  
(copy), Clean Site Payment  
trans, Clean Site Drawing  
filled 9/7/2004, cert of trans,  
fax confirm, USPTO auto - reply

Thursday

February 3, 2005

From PTO

10/097, 868  
69/040, 360

Final Office Action  
Official Filing Receipt

Friday

February 4, 2005

From PTO

10/392, 356  
10/300, 335  
10/190, 331  
10/456, 358

Final Office Action (from  
State of Maine)

States Ready All  
Notice of Recordation  
Notice of Recordation  
Non-Final Office Action (from  
State of Maine)

10/070 to PTO

10/447, 252 (Non-US)

Draw the payment  
Draw, Amend, Set of 50  
Set, 5 Sheets FO.  
3/2 Amend, Set of  
Draw, Tax column,  
USPTO Lab - Pkg  
Completion

February 4, 2005

From PTO

11/04, 462  
09/159, 503

Return Postcard  
Notice of Allowance &  
Non-Final Office Action

To PTO

09/566,321 (OC) Appeal Brief, (Trans. fee  
trans) Re Postcard filed  
1/31/2005 by Nestley, e.  
Bryder

February 8, 2005

Tuesday

From PTO

11/04, 420  
10/797, 668  
10/617, 375  
10/591, 802  
09/911, 592  
09/564, 876

Return Postcard  
Notice of Publication (app)  
Notice of Appeal Pub  
Notice of Appeal Pub  
Non-Final Office Action  
Decision on Petition to Withdraw  
(Dismissal) via fax

Wednesday

February 9, 2005

Wednesday (cont.)

Then PTO

09/59, 403  
09/54, 876

10/657, 328  
10/413, 977  
09/601, 830  
09/560, 051

Notice of intent to file  
Demand in Plaintiff v. Plaintiff  
(Dinnerord)  
Notice of intent to file  
Proposed Office Action  
Non-Statute Office Action  
Official Publication Notice

To PTO

10/302, 159 (cc)

cc, 1m 50T, Plaintiff  
filed 2/3/2005 by  
Bitharry & Carlson

09/659, 337 (cc)

Oppal Buff, Plaintiff  
fee Waive, art of mail  
filed 2/3/2005 by  
Bitharry & Carlson

09/670, 084 (cc)

Notice of appeal, Plaintiff  
mail filed 2/3/2005  
by Bitharry & Carlson

10/053, 616 (cc)

Official Reply, Plaintiff  
mail filed 2/3/2005  
by Bitharry & Carlson

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

February 9, 2005 (cont.)

Wednesday (cont.)

Notice of intent to file  
Demand in Plaintiff v. Plaintiff  
(Dinnerord)  
Notice of intent to file  
2/2/2005 by Bitharry & Carlson

Notice of Appeal, art of mail  
filed 1/14/2005  
by Bitharry & Carlson

Official Reply, Plaintiff  
mail filed 1/14/2005  
by Bitharry & Carlson

10/304 (cc)

Official Reply, Plaintiff  
mail filed 1/14/2005  
by Bitharry & Carlson

Official Reply, Plaintiff  
mail filed 1/14/2005  
by Bitharry & Carlson

Official Reply, Plaintiff  
mail filed 1/14/2005  
by Bitharry & Carlson

Official Reply, Plaintiff  
mail filed 1/14/2005  
by Bitharry & Carlson

Official Reply, Plaintiff  
mail filed 1/14/2005  
by Bitharry & Carlson

Official Reply, Plaintiff  
mail filed 1/14/2005  
by Bitharry & Carlson

Official Reply, Plaintiff  
mail filed 1/14/2005  
by Bitharry & Carlson

Official Reply, Plaintiff  
mail filed 1/14/2005  
by Bitharry & Carlson

Official Reply, Plaintiff  
mail filed 1/14/2005  
by Bitharry & Carlson

Official Reply, Plaintiff  
mail filed 1/14/2005  
by Bitharry & Carlson

Official Reply, Plaintiff  
mail filed 1/14/2005  
by Bitharry & Carlson

Thursday  
From PTO

February 10, 2005

109/421, 473

Notice of Abandonment

11/014, 566  
10/220, 787

Yield kept  
Division on Partition Settlement  
(Abandoned)  
Division on Partition (Convey  
order transfer) (Abandoned)

10/358, 791  
10/440, 597  
10/115, 255  
10/404, 104

26 PTO

26 PTO

RCE, published / filed by  
Hansly & Springer on 2/7/2005

February 11, 2005

From PTO

Friday

Yield kept  
Division on Partition Settlement  
(Abandoned)  
Division on Partition (Convey  
order transfer) (Abandoned)

10/358, 791  
10/440, 597  
10/115, 255  
10/404, 104

February 14, 2005TuesdayFrom PTO

From PTO

- 09/02/3, 6/26  
Return Postcard (from Kelt)
- 09/07/8, 08/4  
Return Postcard (from Kelt)
- 10/05/3, 6/16  
Return Postcard (from Kelt)
- 10/07/6, 3/23  
Return Postcard (from Kelt)
- 11/03/4, 6/17  
Return Postcard (applying -  
from Kelt)
- 09/4/21, 7/23  
Return Postcard (from Kelt)
- 11/02/6, 2/16  
Return Postcard (app filing -  
from Kelt)
- 11/03/6, 2/16  
Return Postcard (annual filing -  
from Kelt)
- 09/7/23, 4/8/1  
Return Postcard (from Kelt)
- 09/7/23, 5/21  
Return Postcard (from Kelt)
- 09/7/23, 4/9/0  
Return Postcard (from Kelt)
- 11/02/3, 9/5/3  
Return Postcard (app filing -  
from Kelt)
- 11/02/3, 9/5/3  
Return Postcard (annual filing -  
from Kelt)
- 09/05/9, 3/3/7  
Return Postcard (from Kelt)
- 10/9/0/6, 8/4/1  
Updated filing Regs.
- 10/9/0/6, 3/6/9  
Notice of Recalculation
- 10/05/1, 1/8/2  
Notice of Altair's Standard Dev.
- 11/10/4, 5/4/1  
Notice of Revised Applic Pub Date
- 10/6/3/2, 2/20/0  
Notice of Revised Applic Pub Date
- 10/6/5/7, 3/2/0  
Notice of Revised Applic Pub Date
- 10/7/17, 4/2/7  
Updated Filing Expt
- 10/16/7, 2/25  
Decision on Filing

February 15, 2005



February 17, 2005

Thursday

Friday

February 18, 2005

Notice of Appeal Pet  
Notice of Appeal Pub  
Hearing Report  
Notice of Abandonment  
Final Office Action

11/052, 848  
08/777, 844

**Return Postcard  
Notice of Non-Recognition**

08/932, 3817(oc)

Amro/Randy (trans for Kano) Me  
Postcard, field 2/15/2005 by  
Norval & Skeete

### Final Office Action

Annual / reply, turn down,  
1/2rds appraisal of regular property  
(having file there), by court of  
probate, fiscal 2/14/2005 by  
Dutch Harry E. Ceborn

10/102, 190 (oc)

Amend. / reply, firm does claim,  
132 affidavit of Linda Daffey  
(Barry & Lee Assoc.) b/c cut of  
mail, filed 2/14/2005 by  
Duthouray & Carlson

Amend. / reply, (trans. fee  
trans) b/c. cut of mail,  
filed 2/5/2005 by  
Duthouray & Carlson

10/023, 043 (aci)

Ground Roster (Transf. to  
trans) file cont'd. mail,  
filed 2/15/1905 by  
Attorney & Cabin

Corrected PRO1595, copy of  
Notice of Receipt w/ correction  
stated, by mail; filed  
2/15/2005

10 / 759, 400 (OC)

Corrected PRO1595, copy 7  
Review of Record w/ correction  
should be made; July 12  
3/15/2005

0.9 / 0.96, 0.936 (0.50 / 0.45)

Chancery Court, 15 March 1865  
Settled by 15 executors of F.O. peasant  
for consideration of previously filed L.D.  
Hannay's last statement filed 1865

Fri day (cont)

To PTO (cont)

Monday

February 21, 2005

FEDERAL HOLIDAY

(COMPANY HOLIDAY

04/575 469 (FAM/MAN/US) Close file pay Trans,  
trans, art & trans,  
pay confirm, US/10  
Auto-Reply, confirm

09/414, 101 (FAM/MAN)

State Emergency org  
of mental hygiene org.  
filed 10/14/2005, org  
of state emergency filed  
10/14/2005, art of having  
first confirm, US/10  
Auto-Reply, confirm

09/564, 876 (att)

Response to demand  
letter to id/ff/beat from  
close copy of problem &  
resolution from same person  
reg file d 2/4/2005  
art of there, fax  
confirm.

09/703, 482 (FAM/MAN/US)

Close file pay last  
trans, trans, request  
consideration of fees  
already filed 2/05  
art of having pay  
confirm, US/10  
Auto-Reply, confirm

Tuesday

February 22, 2005Tuesday (cont.)

From PTO

26 PTO (cont.)10/709, 575 (EUS)IDS, PTO 1449, Reg, trans,  
cert of trans; fax confirm,  
USPTO auto-Retry confirmFebruary 22, 2005 (cont.)Tuesday (cont.)26 PTO08/777, 824 (EUS)Request for corrected  
Notice of Reconsideration, copy  
of Notice previously  
record, fax confirm  
USPTO auto-Retry confirm  
10/709, 796 (EUS)IDS, PTO 1449, Reg,  
trans, cert of mail,  
postcard09/779, 892 (EUS) IDS, PTO 1449, Reg,  
trans, cert of mail,  
postcard10/806, 114 (EUS) IDS, PTO 1449, Reg,  
trans, cert of mail,  
postcard

Wednesday  
February 23, 2005

From PTO  
To PTO (cont.)

10/29/03, 786  
07/5/04, 876

Notice of Abandonment  
Decision in litigation # 10:111/12/04  
is denied  
Final Office Action  
Non-final Office Action  
Non-Final Office Action  
Official Foothill Patent

10/14, 939  
12/30/03, 859

07/11/03, 682  
06/15/03, 443

To PTO

10/409, 315 (Fam/Int)  
Lower Sec Ray James, Replied  
for consideration of previously  
submitted IDS, trans, cert  
of trans, fax confirm, USPTO  
auto-Reply Confirm

60/049, 655 (Int)  
Rillian H. Gold, via facsimile  
to agents office w/ cert of  
trans, fax trans, fax confirm,  
USPTO auto-Reply- Confirm

Wednesday (cont.)  
February 23, 2005 (cont.)

10/154, 695 (Int)  
Mildred D. Ferguson, D/copied  
of petition papers & conform  
orig fil'd 09/20/04, cert of  
Lebra, fax confirm  
IDS, PTO 1449, reply, trans,  
cert of trans, fax confirm  
USPTO auto-Reply confirm

10/154, 695 (Int)  
Mildred D. Ferguson, D/copied  
of petition papers & conform  
orig fil'd 09/20/04, cert of  
Lebra, fax confirm

Tuesday

Friday

February 25, 2005

From PTO

From PTO

11/057,275 Return Postcard  
11/024,210 Filing, Rept  
10/325,839. Decision on Motion to Amend  
Amending (Amended)

09/452,957 Notice of Abandonment  
08/575,433 Non-Serial Office Action  
07/370,504 Non-Serial Office Action  
10/040,074 Non-Serial Office Action  
10/051,100 Non-Serial Office Action

To PTO

To PTO

10/786,290 (ac) Answer/Reply, (Cancel fee req)  
by postcard, filed 2/14/2005  
by facsimile, by fax



March 2, 2005

To Wednesday (cont.) March 3, 2005 (cont.)

From PTO

		26 PTO (cont.)	
10/19/04, 302	Non-Serial Office Action	60/547, 706 (EUS)	Request cert copy of ap'l.
09/587, 015	Notice of Abandonment	"	as filed, fax confirm
10/155, 445	Notice Regarding PTO (new event) accept'd	60/547, 706 (EUS)	"
09/397, d14	Notice of Recordal Abandonment	11/057, 275 (EUS)	"
09/591, 629	Notice of Abandonment	10/853, 502 (EUS)	"
		60/310, 009 (EUS)	"
		10/853, 501 (EUS)	"
		10/860, 803 (EUS)	"
		10/868, 491 (EUS)	"
		10/838, 503 (EUS)	"
		10/838, 517 (EUS)	"
		10/859, 057 (EUS)	"
		10/858, 808 (EUS)	"
		10/859, 463 (EUS)	"
		10/860, 609 (EUS)	"
		10/859, 469 (EUS)	"
		10/853, 525 (EUS)	"
10/169, 823 (EUS)	Request for certified copy of application as filed, cert of fax confirm	10/889, 128 (EUS)	c-IDS, PTO 1449, USPTO electronic confirmation
10/758, 213 (EUS)	"	10/761, 375 (EUS)	c-IDS, PTO 1449, USPTO electronic confirmation
10/758, 770 (EUS)	"		
10/759, 404 (EUS)	"		
10/975, 595 (EUS)	"		
10/975, 894 (EUS)	" (4 copies)		
10/975, 215 (EUS)	"		
10/975, 971 (EUS)	"		
10/975, 214 (EUS)	" (2 copies)		
10/794, 437 (EUS)	"		
10/800, 272 (EUS)	"		
10/786, 293 (EUS)	"		
10/988, 348 (EUS)	"		
10/511, 899 (EUS)	"		
m/166 601.2 (EUS)	"		

To PTO (cont)

From PTO

60/500, 009 (EUS)	Request for certified copy of application filed (11), Fax confirmation	09/436, 794 09/779, 0922 10/979, 811 09/409, 506	Return Postcard Return Postcard Received Reticulation (via fax) Notice of Recitation (via fax) (correlative MCIN)
10/024, 202 (EUS)	Initial Correspondence, cert of trans, fax confirming USPTO Auto-Reply Confirmation e-IDS PTO 1449, USPTO Electronic Confirmation	09/409, 506 09/409, 506	Notice of Recitation (via fax) (from MIW → WCOM) Notice of Recitation (via fax) (from WCOM → MIJ, Inc.)
10/036, 607 (EUS)	e-IDS, PTO 1449, USPTO electronic confirm	10 PTO	
09/106, 070 (EUS)	e-IDS, PTO 1449 USPTO electronic confirm	11/016, 154 (EUS)	IDS, PTO 1449, trans, cert of trans, fax confirmation, USPTO Auto-Reply Confirmation
		11/034, 699 (EUS)	IDS, PTO 1449, trans, cert of trans, fax confirmation, USPTO Auto-Reply Confirmation
		11/036, 314 (EUS)	IDS, PTO 1449, trans, cert of trans, fax confirmation, USPTO Auto-Reply Confirmation
		10/979, 811 (EUS)	PTO 1515, assign, filed electronically
		09/409, 506 (EUS)	→ Receipt and "name update" from WCOM → WCOM PTO 1515, filed corrective transmission using <u>single agreement</u> for filers from MIJ, file electronically

Thursday (cont.)

Friday

March 4, 2005

March 4, 2005

do PTO (cont)

From PTO

10/039, 463 (EUS) Renewal 1.476) Petition

cert of trans, fax confirm  
US PTO auto - reply confirm

08/907, 849

File Comm w/ Contrav  
Summary regarding consider  
of TDS10/979, 811 (EUS) RINNTEMP, copy & NTEMP,  
also, trans, fax trans  
fax confirm, US PTO auto -Reply Confirmation  
09/074, 323  
09/803, 456Electronic Action  
File Comm Rjnday, Comder  
of TDS10/045, 071  
Notice of Oppn Pet  
10/987, 753Notice of Oppn Pet  
11/034, 699

and Notice of filing Rept

Decision on 1.471(a) Petition (Granted).

10/798, 348  
Non-Judicial Office Action10/051, 974  
Non-Judicial Office Action10/060, 604  
Reply Confirmation  
09/469, 506 (EUS) Petr/Petr of attorney, 3.13 (b)  
Amend, cert of trans, fax copying  
US PTO auto - reply confirm

do PTO

10/979, 811 (EUS)

Petition Amend, cert of trans,

fax confirm, US PTO auto - reply  
Confirm09/708, 068 (AC) Amend/Reply, Trans & fax  
trans) EUS, reselected, filed  
2/28/2005 by Harry E.  
Snyder

66

Monday

March 7, 2005

From PTO

11/041, 402  
10/013, 777  
10/826, 114  
60/055, 911  
10/920, 131  
09/781, 590

Filing Rept  
Notice of Recordation (via fax)  
Return Postcard  
Return Postcard  
Notice of Recordation  
MXAC 512 & IDS Communication

Tuesday

March 8, 2005<sup>67</sup>From PTO

11/064, 973  
11/041, 420  
09/200, 844  
08/924, 928

Returns Postcard  
Filing Rept  
Notice of Abandonment/  
Interview Summary  
Augel Notice of Allow

To PTOTo PTO

10/013, 777 (EUS)

PTO 1595 assign, electronic  
confirmation

09/768, 069 (OC)

Amend/reply, (transfere  
from) Mr., postcard filed  
2/28/2005 by /Kerry E. Bruder

RIC05001 (OC)

Util applic w/d3 postcard,  
5 streets change, dec, PTO  
1595 assign, applic date  
sheet, IDS, PTO 1479 info,  
util (transfere from) Mr.,  
postcard', filed 2/25/2005  
by /Kerry E. Bruder

10/699, 923 (OC)

Amend/reply, (transfere  
from) Mr., postcard filed  
by /Kerry E. Bruder on  
2/28/2005

RIC05002 PR (OC)

Prior applic w/ 43 sheets  
of info, 3 sheets change,  
applic date sheet ground  
transfere from) sheet plus  
2/25/2005 by /Kerry E.  
Bruder

<sup>110</sup>	<u>Wednesday</u>	<u>March 9, 2005</u>	<u>Wednesday (cont.)</u>	<u>March 9, 2005 (cont.)</u>
	<u>From PTO</u>		<u>To PTO (cont.)</u>	
	09/40, 845 10/706, 398 08/987, 849	Closure Notification Advisory Action Misc Commun Regarding Conclusion of IDS	10/013, 777 (OC)	Amend/Reply, (trans & fee trans) ltr, filed 3/1/2005 by Dithavong & Carlson
	09/637, 558 09/397, 578 10/702, 190 11/034, 699 10/023, 043 10/800, 394 11/034, 008 09/983, 690 10/016, 111	Non-Final Office Action Notice of allow & issue fee due Return Postcard (from kelt) Return Postcard (from kelt) Notice of Recordation (from kelt) Notice of Recordation (from kelt)	SKY05001 (OC)	CIP Appln w/ 36 pp spec, 11 sheets drawg, dec, applic data sheet, PTO 1595, assign, util (trans & fee trans) ltr, cert of express mail, filed 2/05/2005 by Dithavong & Carlson
	<u>To PTO</u>			
	09/875, 003 (OC)	Amend/Reply, (trans & fee trans) ltr, cert of mail, filed 3/2/2005 by Dithavong & Carlson		
ans	10/385, 229 09/983, 690 (OC)	Amend/Reply, (trans & fee trans) ltr, cert of mail, filed 2/23/2005 by Dithavong & Carlson		
	09/123, 109 (OC)	Amend/Reply, (trans & fee trans) ltr, cert of mail, filed 3/2/2005 by Dithavong & Carlson		

Serial No.: Docket: RIC-96-161  
Filing Date: 12/31/97 Attorney: Deborah Miller  
Applicant(s): Hayes et al  
Title: System and Method for Establishing a Virtual Circuit in an ATM Network

The following was mailed on the date indicated on the Certificate of Mailing. The actual date of receipt in the U.S.P.T.O. is as of the date stamped hereon:

Utility Patent: 27 pgs of specification (w/cover & abstract)

5 sheet (s) of 5 figures of informal drawings

Certificate of Mailing/Express Mail EM145302105US

**PLEASE DATE STAMP AND RETURN POSTCARD**  
[Date of Mailing: December 31, 1997]

MCI Ref # **RIC 96 161**

Date **12/31/97**

Docketed  
Expense List  
Log Book  
Amount

101 Filing Fee  
102 Extra ind. claims  
103 Extra claims  
104 Multiple Dependent claims  
105 Surcharge NTFMP  
114 Provisional Filing Fee  
115 Extension for response 1 month  
116 Extension for response 2 months  
117 Extension for response 3 months  
118 extension for response 4 months  
119 Notice of Appeal  
123 Petition for Provisional Application  
126 Submission of IDS  
142 Utility Issue Fee

Serial No.: Docket: RIC-96-161  
Filing Date: 12/31/97 Attorney: Deborah Miller  
Applicant(s): Hayes et al  
Title: System and Method for Establishing a Virtual Circuit in an ATM Network

The following was mailed on the date indicated on the Certificate of Mailing. The actual date of receipt in the U.S.P.T.O. is as of the date stamped hereon:

Utility Patent: 27 pgs of specification (w/cover & abstract)

5 sheet (s) of 5 figures of informal drawings

Certificate of Mailing/Express Mail EM145302105US

jc560 U.S. PTO  
09/002187



12/31/97

**PLEASE DATE STAMP AND RETURN POSTCARD**  
[Date of Mailing: December 31, 1997]

**PATENT APPLICATION TRANSMITTAL**

**ASSISTANT COMMISSIONER FOR PATENTS**  
**Box Patent Applications**  
**Washington, D.C. 20231**

**Transmitted herewith for filing is the Utility Patent Application of:**

**Inventor(s):** David S. Hayes      **Enclosed are:** Utility Patent: 27 pgs of specification (w/cover & abstract)  
 Randy Haberman  
 Steve Herlocher  
 5 sheet (s) of 5 figures of informal drawings  
 Certificate of Mailing/Express Mail EM145302105US  
 Postcards

**Title:**

System and Method for Establishing a Virtual Circuit in an ATM Network

**The Filing Fee has been calculated below:**

	Number Filed	Number Extra	Rate	Fee
Basic Fee			\$790.00	\$790.00
Total Claims	29 - 20 =	9	x \$22.00	\$198.00
Independent Claims	4 - 3 =	1	x \$78.00	\$82.00
Multiple Dependent Claim Present			\$250.00	
Assignment Recordation Fee			\$40.00	
<b>Total Filing Fee</b>				<b>\$1,070.00</b>

It is respectfully requested that the attached post card be stamped with the filing date and unofficial application number of these documents and returned to the addressee as soon as possible.

This patent application is being submitted under 37 C.F.R. Section 53(b) without filing fee.  
 I hereby claim the benefit under 35 U.S.C. Section 119(e) of any United States provisional application  
 listed herein: \_\_\_\_\_

I hereby certify that this correspondence is being deposited with the United States Postal Service as "Express Mail" in an envelope addressed to: Box Patent Application, Assistant Commissioner for Patents, Washington D.C. 20231

Dated: 12/31/97  
 Express Mail Label No. EM145302105US

By: Carolyn McRae

  
 12/31/97  
 Deborah Miller  
 Attorney for applicant(s)  
 Reg. No. 37,679

Send all correspondence to:  
 Technology Department  
 MCI COMMUNICATIONS CORPORATION  
 1133 19TH STREET, NW  
 WASHINGTON DC20036

# **System and Method for Establishing a Virtual Circuit in an ATM Network**

**Inventors:** David S. Hayes  
Randy Haberman  
Steve Herlocher

5

## ***Background of the Invention***

### ***Field of the Invention***

The present invention is directed to a telecommunications network and, in particular, to a system and method for establishing a virtual circuit in an ATM network.

10

### ***Related Art***

Computer networks often are designed to connect “client” systems with “server” systems. A client is a device and/or software that requests information from a server. A client may be a computer system or process, for example. The server is typically a shared computer in which data is stored and from which data is distributed. A server may be a computer program, a database system, or a computer system, for example. The server provides a service to clients utilizing a “client-server model.”

15

According to the client-server model, the client connects to the server, sends a request (or query) to the server, and waits for a response from the server. The client may request that the server perform a computation, retrieve a file, or search a database for a particular entry, for example. It is not uncommon for the client to subsequently translate the server’s response into a format that a human can understand.

20

5

Computer networks are often designed with multiple servers to increase network reliability. Those skilled in the art will recognize that server redundancy decreases the disruption felt by the network when one or more servers fail. When failure does occur, client queries can be redirected to alternate servers capable of handling the queries.

10

Many networks today employ an asynchronous transfer mode (ATM) scheme for network communication. ATM networks are particularly useful in today's multi-vendor environment where applications have different performance, quality, and business requirements, but which utilize the same computer, multiplexer, router, switch, and/or network.

15

20

Routing of queries in an ATM network is based on virtual circuit routing. A virtual circuit is a circuit that appears to the client and to the server to be a dedicated point-to-point circuit. An ATM network must establish a path from the client to the server (*i.e.*, the virtual circuit) before client / server communication can begin. The ATM network establishes a virtual circuit after receiving a request for connection from a client. The request for connection includes an address which identifies the desired server to the ATM network. Through a private network-to-network interface (PNNI) routing process, the ATM network selects the best path through the network from the requesting client to the desired server. These conventional ATM routing techniques are well known to those skilled in the art.

25

Conventional ATM routing performs poorly where the desired server has failed or is otherwise unavailable. Queries must be routed to a new server capable of handling the query. Some clients may not be capable of selecting a new server—these clients may not have their queries answered. Other clients may be capable of selecting a new server, but doing so requires additional time and the

client must maintain a list of all currently available servers and their addresses. What is needed, therefore, is a system and method for establishing a virtual circuit in an ATM network to any one of a set of suitable servers without the client having to know either the status or address of suitable servers.

5

### *Summary of the Invention*

10

The present invention is directed to a system and method for establishing a virtual circuit from a client through an ATM network to a server, where the server is selected from a group of servers. The client requesting the virtual circuit need not know the individual address of any of the servers in the group, only the address of the group itself. Selection of a particular server is transparent to the client—the ATM network is responsible for selecting a server from the group identified by the client.

15

One advantage of the present invention is that clients are not responsible for selecting an alternate server in the event of server failure. According to the present invention, routing decisions are made at the network level rather than by the client. When a request for connection is received from a client, a virtual circuit is established between the client and a server from the selected functional group which is known to be operational. The client is therefore relieved of the responsibility of handling failed requests for connection.

20

Another feature of the present invention is that connections to servers within a particular functional group may be distributed according to a desired criteria. In a preferred embodiment, connections may be distributed according to the processing load carried by each server in a functional group—servers receive requests for connection at a rate inversely proportional to their current processing load. This allows queries directed to a particular functional group to be

25

distributed to servers able to respond most quickly, thereby maximizing the performance of the ATM network.

Yet another feature of the present invention is that the client need not know the address of each server in the ATM network. The client need only know  
5 the address of a functional group of servers. The addresses of individual servers within each functional group may therefore be modified without requiring that new addresses be stored at each client.

Further features and advantages of the invention, as well as the structure and operation of various embodiments of the invention, are described in detail  
10 below with reference to the accompanying figures. In the drawings, like reference numbers generally indicate identical, functionally similar, and/or structurally similar elements. The drawing in which an element first appears is indicated by the leftmost digit(s) in the corresponding reference number.

### *Brief Description of the Figures*

15 The present invention will be described with reference to the accompanying drawings, wherein:

FIG. 1 is a block diagram of a network environment within which the present invention is used;

20 FIG. 2 is a block diagram illustrating a network environment in more detail;

FIG. 3 is a block diagram illustrating the software components of a multiple destination routing controller;

FIG. 4 is a flowchart of the operation of a preferred embodiment of the invention; and

FIG. 5 is a block diagram of a computer system representing a preferred implementation of a multiple destination routing controller.

### ***Detailed Description of the Preferred Embodiments***

#### **I. Overview of the Invention**

5       The present invention is directed to a system and method for establishing a virtual circuit in an ATM network. According to the present invention, a client transmits a request for a virtual circuit (*i.e.*, a request for connection) to an ATM network. The request specifies an address identifying a group of servers which are all capable of providing a desired function (*i.e.*, a functional group).

10      Upon receiving the request for connection, the network of the present invention selects a suitable server from the identified functional group. Importantly, the selection of a particular server is made at the network level, rather than by the client. The network then creates a virtual circuit connecting the client to the selected server. Communication between the client and server may 15 then proceed according to standard ATM techniques.

#### **II. ATM Network Environment**

20      The present invention is suitable for operation in an ATM network environment. As is well known to those skilled in the art, ATM networks use various communication protocols, depending generally upon the type of devices which are communicating: network-to-network interface (NNI) signaling protocol is used between ATM switches, user-to-network interface (UNI) signaling protocol is used between clients/servers and the ATM network, and

private-network-to-network interface (PNNI) routing requests are used by ATM switches to determine proper routing for the virtual circuit.

The present invention is described herein in the context of an ATM network environment. It should be understood, however, that the present invention is not limited to this environment. Those skilled in the art will recognize that the present invention can operate within other network environments following protocols similar to the ATM network protocol, such as a TCP/IP network protocol.

FIG. 1 is a block diagram of an example network environment 100 suitable for implementation of a preferred embodiment of the present invention. Network environment 100 includes an ATM network 102, clients 104 (indicated by reference numbers 104A through 104C), and servers 106 (indicated by references numbers 106A through 106C). Clients 104 and servers 106 communicate bi-directionally with ATM network 102. This example network environment is now described.

Clients 104 communicate with servers 106 via ATM network 102. According to the present invention, clients 104 and servers 106 interact in a conventional client/server relationship well known to those skilled in the art. However, ATM network 102 does not recognize a difference between clients 104 and servers 106. ATM network 102 is concerned with the transmission of data, without regard to which system is the "client" and which is the "server". Consequently, clients 104 and servers 106 are so designated to indicate their relationship to each other, but are interchangeable so far as ATM network 102 is concerned.

As is known to those skilled in the art, clients **104** may contact a server **106** for many different purposes. Clients **104** and servers **106** may also be implemented in many different ways, so long as both are able to communicate via ATM network **102**. For example, client **104** represents a travel agent's airplane reservation system, and server **106** represents a central booking computer. Alternatively, client **104** represents a point-of-sale cash register, and server **106** represents a computer tasked with tracking inventory and sales. Alternatively still, client **104A** represents a gas pump with a credit card reader, and server **106** represents a credit checking computer.

FIG. 2 is a more detailed illustration of network environment **100**. ATM network **102** includes ATM switches **202** interconnected by communication pathways **204**, and a multiple destination routing controller **206**.

ATM switch **202** in a preferred embodiment is a conventional ATM switch. Alternatively, ATM switches **202** can be implemented using any network elements that are compatible with ATM technology, including NNI signaling protocol and PNNI routing protocol.

Communication pathways **204** represent bidirectional point-to-point channels between clients **104**, servers **106**, and ATM switches **202**. Communication pathways **204** support UNI or NNI signaling protocol as appropriate. As is well known to those skilled in the art, communications between an ATM switch **202** and an end-user (*i.e.*, a client or server) conventionally follow a UNI signaling protocol. Conversely, communications between ATM switches **202** conventionally follow a NNI signaling protocol. Communication pathway **204** therefore represents a bidirectional communication link which supports the signaling protocol appropriate to the devices connected to the link.

5

Multiple destination routing controller 206 is connected to the network of ATM switches 202 via one or more communication pathways 204. FIG. 2 depicts a single communication pathway 204 between multiple destination routing controller 206 and ATM switch 202C. However, those skilled in the art will recognize that multiple communication pathways 204 could be used to provide redundancy and enhanced network reliability. The operation of multiple destination routing controller 206 is described in detail below.

10

### III. Conventional ATM Routing

Conventional ATM routing is now described in terms of a simple example. Referring to FIG. 1, assume in this example that client 104A is a gas pump with a credit card reader that wishes to ask server 106A “Is this credit card valid?” in response to customer’s request to purchase gas with a credit card.

15

20

Communications between clients and servers via ATM network 102 may be analogized to a telephone call. Before any client/server communication can take place, client 104A must establish a virtual circuit to server 106A. In terms of the telephone call analogy, client 104A calls server 106A and server 106A answers the call. In answering the call, server 106A accepts the incoming virtual circuit and a communication path is established over which client 104A and server 106A can interact. Client 104A can now make the query “Is this credit card valid?” for example, and server 106A can answer the query.

Those skilled in the art will recognize that any end-user device (e.g., client or server) can request a virtual circuit to any destination. In the context of the current invention, however, most virtual circuit requests come from client systems.

With conventional ATM networks, clients 104 must know the ATM address of the server 106 with which they wish to connect. This characteristic is analogous to conventional telephony, wherein the calling party must know the telephone number of the called party. Further, no two end-users have the same 5 ATM address. Servers and clients each have a unique ATM address. Accordingly, in order to request a virtual circuit between them, client 104A specifies the ATM address of server 106A.

According to conventional PNNI routing, ATM network 102 selects the best route through ATM network 102 for a virtual circuit from client 104A to 10 server 106A. Referring to FIG. 2, one possible route from client 104A to server 106A would be through ATM switches 202A and 202B. If, on the other hand, client 104A wanted to establish a virtual circuit to server 106B, then one possible route would be from client 104A to ATM switch 202A to ATM switch 202B to 15 server 106B. Another route would be from client 104A to ATM switch 202A to ATM switch 202C and to server 106B. In either case, ATM network 102 uses the PNNI routing process to select the best route through ATM network 102 from client 104A to server 106A or to server 106B.

Conventional PNNI routing procedures associate ATM switches into “peer groups” in order to create a routing hierarchy. Peer groups typically contain 20 only a few ATM switches. Large ATM networks are constructed by combining peer groups together into larger peer groups. The PNNI routing protocol organizes the peer groups into a layered hierarchy. The use of peer groups organized into multiple hierarchical levels is well known to those skilled in the art, and will not be discussed in detail herein.

25 According to conventional ATM technology, one ATM switch in each peer group is designated the “peer group leader.” The peer group leader is

responsible for maintaining the topology of all ATM switches in its peer group.  
Additionally, the peer group leader also represents its peer group to higher layers  
in the routing hierarchy. If an ATM switch in a peer group receives a request for  
a virtual circuit and does not already know the correct route, the ATM switch asks  
5 the peer group leader to determine the route.

Consider again the example described above wherein client **104A** wishes  
to establish a virtual circuit to server **106A**. Suppose that ATM switch **202C** is  
the peer group leader for a peer group consisting of ATM switch **202A**, ATM  
switch **202B**, and ATM switch **202C**. Client **104A** transmits to ATM switch  
10 **202A** a request for connection with server **106A**, including server **106A**'s ATM  
address. Suppose further that ATM switch **202A** does not already know a route  
for a virtual circuit from client **104A** to server **106A**. ATM switch **202A** asks  
peer group leader ATM switch **202C** to determine a route from client **104A** to  
server **106A**.

15 A limitation of conventional ATM routing is that if server **106A** is not  
operational because of a failure, because of having been removed from service for  
routine maintenance or for some other reason, client **104A** is typically unaware  
of this status of server **106A**. If client **104A** is not capable of selecting a new  
server, then client **104A** may be unavailable to serve customers. That is, the gas  
20 pump credit card reader will be out of service, for example.

If, on the other hand, client **104A** is capable of selecting a new server,  
then client **104A** may do so. However, time is wasted between determining that  
server **106A** is unavailable and selecting the secondary server. In any event,  
client **104A** may not know the individual ATM address for the secondary server.

Selecting a new server may also be complicated by the fact that typically client 104A does not have a view of the current conditions in the entire ATM network. Client 104A generally does not have access to the dynamic status of the network. Knowing the status and ATM address of a particular secondary server  
5 at any given point in time would require the client to maintain an up-to-date listing of all currently available servers and their addresses. Status information could be distributed to client 104A, but this would increase the complexity and expense of client systems. Moreover, this distribution of the information would add to the load on ATM network 102. The extra load would diminish ATM  
10 network 102's capacity to carry queries.

#### IV. Functional Groups within an ATM Network

According to the present invention, client 104A sends to ATM network 102 a request for connection. The request for connection differs from a conventional request in that it specifies an address of a functional group of servers, rather than a particular individual server. ATM network 102 selects a server from the specified functional group and connects client 104A to that server. This is advantageous to client 104A because ATM network 102 has a better view of current network activity and status than client 104A. Accordingly,  
15 ATM network 102 can base a selection decision on factors not available to client 104A, such as the current processing load carried by each server. The following  
20 section provides further details related to server selection and routing.

According to the present invention, servers 106 are grouped according to the functions they perform. Each server 106 in a particular functional group must be able to service any request from a client 104 sent to the group. The present invention assumes that any operational server within a functional group may be selected to service a client query sent to that group. For example, several servers  
25

may be grouped together to verify credit card purchases at gas pumps. Each server in the group must be able to process credit card queries sent to that group.

5           Each functional group is assigned a unique ATM address. For example, a group of servers validating credit cards may be assigned an ATM address of 0000.0000.0001. Similarly, a group of servers handling toll-free routing information may be assigned an ATM address of 0000.0000.0002. The ATM functional group addresses may be chosen arbitrarily and assigned at the convenience of an administrator of ATM network 102.

10          Each server in a functional group is configured to respond to the ATM functional group address. A single server may be included within more than one functional groups, so long as that server is capable of servicing client queries sent to each of the groups. Servers may therefore respond to two or more ATM addresses: their individual ATM address, and the address of each functional group to which they belong.

15          For example, referring to FIG. 2, suppose that server 106A has a device address of 0000.0000.0010, server 106B has a device address of 0000.0000.0020, and the functional group consisting of 106A and 106B has a functional group address of 0000.0000.0030. According to the present invention, server 106A responds to the address 0000.0000.0010 as well as to the address 0000.0000.0030. Likewise, server 106B responds to the address of 0000.0000.0020 as well as to the address of 000.0000.0030.

## V. Operation of Multiple Destination Routing Controller

The operation of multiple destination routing controller (MDRC) 206 will be now described with reference to FIG's 3 and 4. FIG. 3 is a block diagram 300 depicting the various software components of MDRC 206: an interface module 302, a routing module 304, a peer group leader module 308, and a server module 310. FIG. 4 is a flowchart 400 depicting the steps performed by ATM network 102, including MDRC 206, according to a preferred embodiment.

In FIG. 3, each of these software components, or modules, represent a particular function performed by a computer under the control of computer software. Often the line between the functionality of one component and the next is arbitrarily drawn, and is described as such purely for purposes of convenience. For instance, a function described as being performed by server module 306 might equivalently be performed by interface module 302 or routing module 304. Those skilled in the art will note the importance of the function described, not the arbitrary grouping of functionality into software modules.

Those skilled in the art will recognize that creating software code based on the following functional descriptions is well within an ordinary level of skill. Those skilled in the art will also recognize that, depending upon the environment and the hardware used, different languages would be appropriate under different circumstances. Again, the choice of a particular language is well within the level of ordinary skill in the art.

Interface module 302 handles all communications between the various other software modules, and all communications outside MDRC 206. Here, interface module 302 provides the interface for communicating with ATM switch 202C. Interface module 302 is implemented as conventional input/output and

control routines. Interface module **302** is shown in FIG. 3 primarily for purposes of illustrative clarity—those skilled in the art will recognize that interface module **302** could have been omitted from FIG. 3, as these are functions performed by all software routines, and can be assumed to be part of any software implementation.

5           Peer group leader module **308** causes ATM network **102** to elect MDRC **206** as peer group leader. According to standard ATM technology, a peer group leader is elected for each peer group. This insures that all request for routing in that peer group are directed to MDRC **206**. In a preferred embodiment, peer group leader module **308** arranges to win this election by broadcasting an artificially higher preference for MDRC **206**. However, those skilled in the art will recognize that there are many alternate approaches to having MDRC **206** elected peer group leader.  
10

15           Another alternate approach is to manually configure ATM network **102**, assigning MDRC **206** as peer group leader. In this approach, peer group leader module **308** no longer is necessary to insure that MDRC **206** is elected peer group leader. However, those skilled in the art will recognize that other functions may still need to be performed according to ATM protocol, such as periodically broadcasting "keep-alive" packets to all members of the peer group.

20           Referring now to FIG. 4, flowchart **400** illustrates the operation of ATM network **102** according to a preferred embodiment of the present invention, including the operation of MDRC **206**. These steps will be described in the context of the example outlined above, where client **104A** wishes to contact a server capable of providing a particular service, such as authorizing a credit card purchase. For purposes of this example, assume that servers **106A** and **106B** are included within a functional group which provides this service. Assume that client **104A** has sent a request for connection to ATM switch **202A** specifying  
25

this functional group. Further assume that, prior to the request for connection being sent, peer group leader module 308 has caused MDRC 206 to be elected peer group leader of the peer group including ATM switches 202A, 202B, and 202C.

5           In step 404, ATM switch 202A receives a request for connection from client 104A, as mentioned above. Since the functional group address does not belong to any actual physical device, ATM switch 202A cannot itself determine a route to establish a virtual circuit. Following conventional procedures of PNNI, in step 406 ATM switch 202A sends a routing request to the peer group leader, 10 which in this case is MDRC 206, requesting a route to the functional group address.

15           Interface module 302 receives the routing request from ATM switch 202A, via ATM switch 202C. As peer group leader, MDRC 208 must handle all PNNI routing requests from the peer group, both those specifying a functional group address, and those specifying a conventional ATM address.

20           Routing module 304 determines routings through ATM network 102 according to conventional ATM technology. For instance, routing module 304 can determine a routing between client 104A and server 106A. When a routing request is received specifying a conventional ATM address, routing module 304 determines an appropriate routing, and returns the routing to the requesting ATM switch 202, which then sets up a virtual circuit according to the routing.

25           However, routing requests which specify a functional group address are handled differently. Server module 310 maintains a list of the servers assigned to each functional group, including each server's individual ATM address. In a preferred embodiment, the network administrator provides this list to server

module **310**. Server module **310** also uses conventional techniques to automatically maintain this list by determining which of the servers are actually able to respond at any given moment. This list is updated periodically according to conventional techniques.

5           In step **408**, server module **310** consults the list of servers and selects a server to service client **104A** from the functional group specified in the routing request (and in the request for connection). Server module **310** can make this selection based on a variety of criteria, depending upon the particular network environment. For instance, the server may be selected based on proximity to the  
10 requesting client, network load, available server capacity, or other application-specific factors. However, server module **310** will not select a server which is known to be unreachable.

15           In step **410**, routing module **304** determines a route through ATM network **102**, from client **104A** to the server selected by server module **310**, in this case server **106A**. Again, this is a conventional function of PNNI routing. Routing module **304** need not deviate from conventional ATM practice. The computed route takes the form of an ATM designated transit list (DTL). As is well known to those skilled in the art, this is a list of ATM switches and communication pathways over which the new virtual circuit should be routed. The DTL is a  
20 standard PNNI message, well known to those skilled in the art. Referring to FIG. 2, an example route is from client **104A**, through ATM switches **202A** and **202B**, to server **106A**.

25           In step **412**, interface module **302** transmits the resulting route to ATM switch **202A** as a DTL. In step **414**, ATM switch **202A** creates a virtual circuit through the route specified in the DTL. The request for connection will arrive at the selected server, server **106A**, still bearing the ATM address of the functional

group. As stated above, according to the present invention each server must recognize its own ATM address as well as the ATM address of each functional group of which it is a part.

Now that a virtual circuit is established, client 104A may begin normal  
5 communications with server 106A in a conventional client/server manner.

It is important to note that the virtual circuit need not flow through multiple destination routing controller 206. According to conventional PNNI routing procedures, a DTL need not include the peer group leader within the chosen route. As a result, the peer group leader does not have to perform the  
10 functions of an ATM switch. MDRC 206 may therefore be implemented as a general purpose computer without the special capabilities of an ATM switch.

## VI. Implementation of Multiple Destination Routing Controller

In a preferred embodiment, multiple destination routing controller 206 is implemented as a general purpose computer system, described in detail below.  
15 In an alternate embodiment, multiple destination routing controller 206 is implemented using a special purpose computer system. In still another embodiment, the functions of multiple destination routing controller 206 are integrated into a conventional ATM switch, such as ATM switch 202. Those skilled in the art will recognize the various tradeoffs associated with each  
20 particular implementation.

Multiple destination routing controller 206 can be implemented using hardware, software, or a combination thereof and may be implemented as a computer system or other processing system. An example computer system 500 is shown in FIG. 5. Computer system 500 includes a communication bus, such

as communication bus 502, and one or more processors, such as processor 504. Processor 504 is connected to communication bus 502.

Computer system 500 also includes a main memory 506, preferably random access memory (RAM), and may also include a secondary memory 508. Secondary memory 508 may include, for example, a hard disk drive 510 and/or a removable storage device 512, representing a floppy disk drive, a magnetic tape drive, and optical disk drive, etc. Removable storage device 512 reads from and/or writes to a removable storage medium 514 in a well known manner. Removable storage medium 514 represents a floppy disk, magnetic tape, optical disk, etc., which is read from and written to by removable storage device 512. As will be appreciated, removable storage medium 514 includes a computer usable storage medium having stored therein computer software and/or data.

In alternate embodiments, secondary memory 508 may include other similar means for allowing computer programs or other instructions to be loaded into computer system 500. Such means can include, for example, a removable storage unit 522 and an interface 520. Examples of such can include a program cartridge and cartridge interface (such as that found in video game devices), a removable memory chip (such as an EPROM or PROM) and associated socket, and other removable storage units 522 and interfaces 520 which allow software and data to be transferred to computer system 500.

Computer system 500 includes a communications interface 524. Communications interface 524 allows software and data to be transferred between computer system 500 and the ATM network 102. Examples of communications interface 524 can include a modem, a network interface (such as an Ethernet card), a communications port, a PCMCIA slot and card, etc. Software and data transferred via communications interface 524 are in the form

of signals which can be electronic, electromagnetic, optical or other signals capable of being received by communications interface **524**. These signals are provided to communications interface via communications pathway **204**.

5 In this document, the terms "computer program medium" and "computer usable medium" are used to generally refer to media such as removable storage device **518** and hard disk installed in hard disk drive **510**. These computer program products are means for providing software to computer system **500**.

10 In an alternate embodiment, the invention is implemented using computer programs (or software). Computer programs (also called computer control logic) are stored in main memory **506** and/or secondary memory **508**. Computer programs can also be received via communications interface **524**. Such computer programs, when executed, enable the computer system **500** to perform the features of the present invention as discussed herein. In particular, 15 the computer programs, when executed, enable the processor **504** to perform the features of the present invention. Accordingly, such computer programs represent controllers of the computer system **500**.

20 In the embodiment where the invention is implemented using software, the software may be stored in a computer program product and loaded into computer system **500** using removable storage device **512**, hard drive **510** or communications interface **524**. The control logic (software), when executed by the processor **504**, causes the processor **504** to perform the functions of the invention as described herein.

25 In another embodiment, the invention is implemented primarily in hardware using, for example, hardware components such as application specific

integrated circuits (ASICs). Implementation of the hardware state machine so as to perform the functions described herein will be apparent to persons skilled in the relevant art(s).

5           In yet another embodiment, the invention is implemented using a combination of both hardware and software.

## VII. Conclusion

10           While the invention has been particularly shown and described with reference to preferred embodiments thereof, it will be understood by those skilled in the art that various changes in form and details may be made therein without departing from the spirit and scope of the invention.

***What Is Claimed Is:***

1        1. A method for establishing a virtual circuit from a client to one of a  
2              plurality of servers through a network, comprising the steps of:

3                  (1) receiving a request for connection from a client, wherein said  
4                      request specifies a functional group, and wherein said functional group includes  
5                      a plurality of servers, each capable of servicing said client;

6                  (2) selecting a server from said functional group;

7                  (3) computing a route to said server; and

8                  (4) establishing a virtual circuit from said client to said server via said  
9                      route.

1        2. The method of claim 1, wherein said step of selecting a server further  
2              comprises selecting an operational server from said functional group which has  
3              the highest available computational power.

1        3. The method of claim 1, wherein said client is a telephone switching  
2              system.

1        4. The method of claim 1, wherein said network is an ATM network.

1        5. The method of claim 1, wherein said network is a TCP/IP network.

1        6. A system for establishing a virtual circuit from a client to one of a  
2              plurality of servers through a network, comprising:

3                  an interface module coupled to receive a routing request from the  
4                      network, wherein said routing request specifies a functional group and a client,  
5                      and wherein said functional group includes a plurality of servers, each capable of  
6                      servicing said client;

7           a server module configured to select a server from said functional group;  
8       and  
9           a routing module configured to determine a route from said client to said  
10      server through the network.

- 1       7.     The system of claim 6, wherein said network is an ATM network.
- 1       8.     The system of claim 7, wherein said system further comprises:  
2           a peer group leader module configured to cause the network to elect said  
3        system as a peer group leader.
- 1       9.     The system of claim 6, wherein said server module is configured to select  
2        an operational server from said functional group which has the highest available  
3        computational power.
- 1       10.    The system of claim 6, wherein said server module is further configured  
2        to maintain a list of functional groups within the network.
- 1       11.    The system of claim 6, wherein said client is a telephone switching  
2        system.
- 1       12.    The system of claim 7, wherein each of said plurality of servers responds  
2        to an ATM address for said functional group.
- 1       13.    The system of claim 6, wherein the network is a TCP/IP network.
- 1       14.    A computer program product comprising a computer useable medium  
2        having computer program logic stored therein, wherein said computer program  
3        logic comprises:

4           interface means for enabling a computer to receive a routing request from  
5        a network, wherein said routing request specifies a functional group and a client,  
6        and wherein said functional group includes a plurality of servers, each capable of  
7        servicing said client;

8           server means for enabling said computer to select a server from said  
9        functional group; and

10          routing means for enabling said computer to determine a route from said  
11        client to said server through said network.

1       15.     The computer program product of claim 14, wherein said network is an  
2        ATM network.

1       16.     The computer program product of claim 14, wherein said network is a  
2        TCP/IP network.

1       17.     The computer program product of claim 15, wherein said computer  
2        program logic further comprises:

3           a peer group leader means for enabling said computer to cause said ATM  
4        network to elect said system as a peer group leader.

1       18.     The computer program product of claim 14, wherein said server means  
2        enables said computer to select an operational server from said functional group  
3        which has the highest available computational power.

1       19.     The computer program product of claim 14, wherein said server means  
2        further enables said computer to maintain a list of functional groups within said  
3        network.

1           20. The computer program product of claim 14, wherein said client is a  
2 telephone switching system.

1        21. The computer program product of claim 15, wherein each of said plurality  
2        of servers responds to an ATM address for said functional group.

1        22. A computer, comprising:  
2              a processor;  
3              interface means for enabling said processor to receive a routing request  
4              from a network, wherein said routing request specifies a functional group and a  
5              client, and wherein said functional group includes a plurality of servers, each  
6              capable of servicing said client;  
7              server means for enabling said processor to select a server from said  
8              functional group; and  
9              routing means for enabling said processor to determine a route from said  
10             client to said server through said network.

1           23. The computer of claim 22, wherein said network is an ATM network.

1 24. The computer of claim 22, wherein said network is a TCP/IP network.

1        25. The computer of claim 23, wherein said computer further comprises:  
2              a peer group leader means for enabling said processor to cause said ATM  
3              network to elect said system as a peer group leader.

1        26. The computer of claim 22, wherein said server means enables said  
2 processor to select an operational server from said functional group which has the  
3 highest available computational power.

1           27. The computer of claim 22, wherein said server means further enables said  
2 processor to maintain a list of functional groups within said network.

1        28. The computer of claim 22, wherein said client is a telephone switching  
2        system.

1        29. The computer of claim 23, wherein each of said plurality of servers  
2        responds to an ATM address for said functional group.

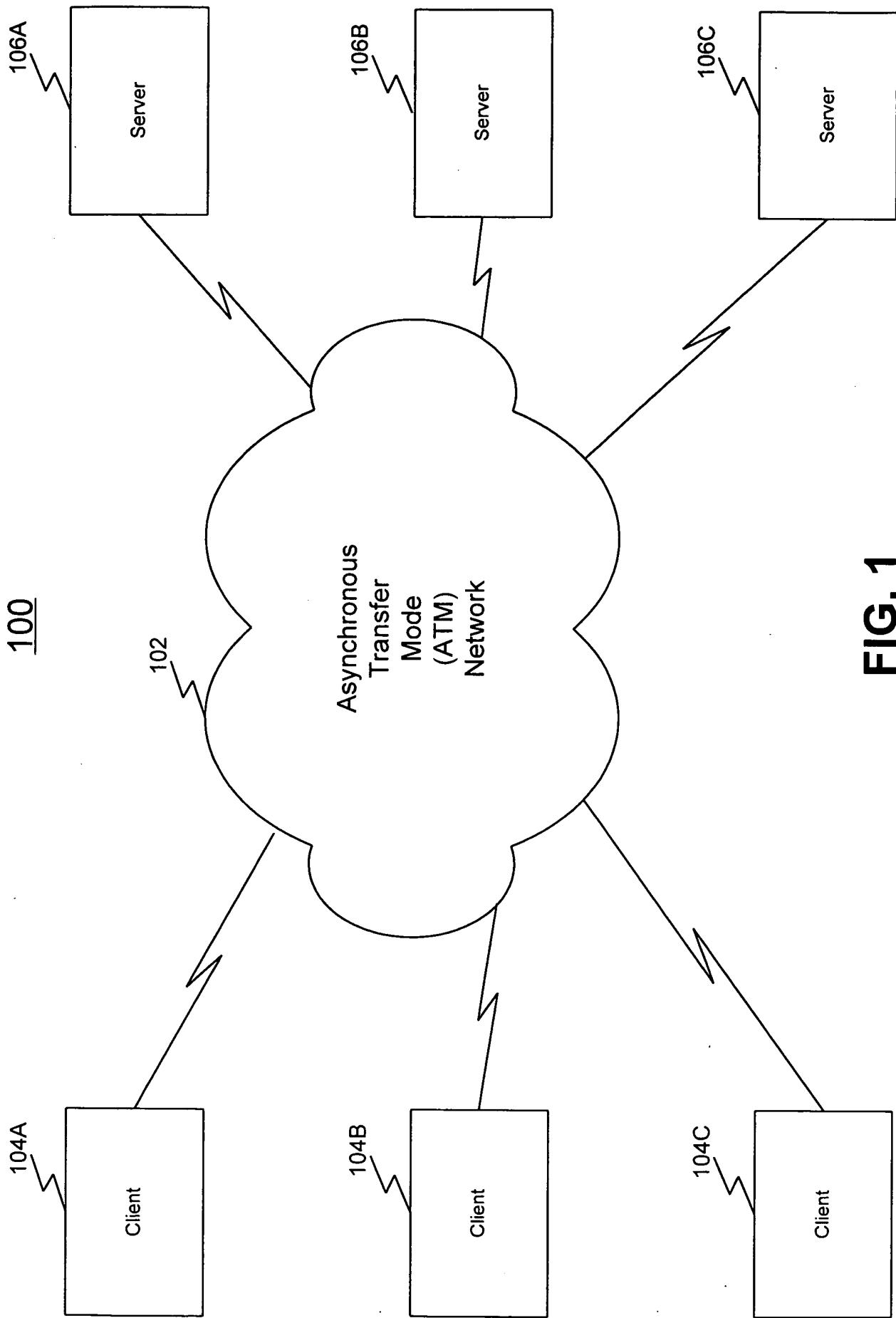
## **System and Method for an Origination to a Plurality of Destinations over an ATM Network**

### ***Abstract***

System and method for establishing a virtual circuit from a client, through an ATM network, to any one of a plurality of servers forming a functional group. The present invention operates as a peer group leader within the ATM network, routing virtual circuits when a routing request is received. The present invention selects an operation server from the functional group, computes a route from the client to the selected server, and returns the route in a designated transit list.

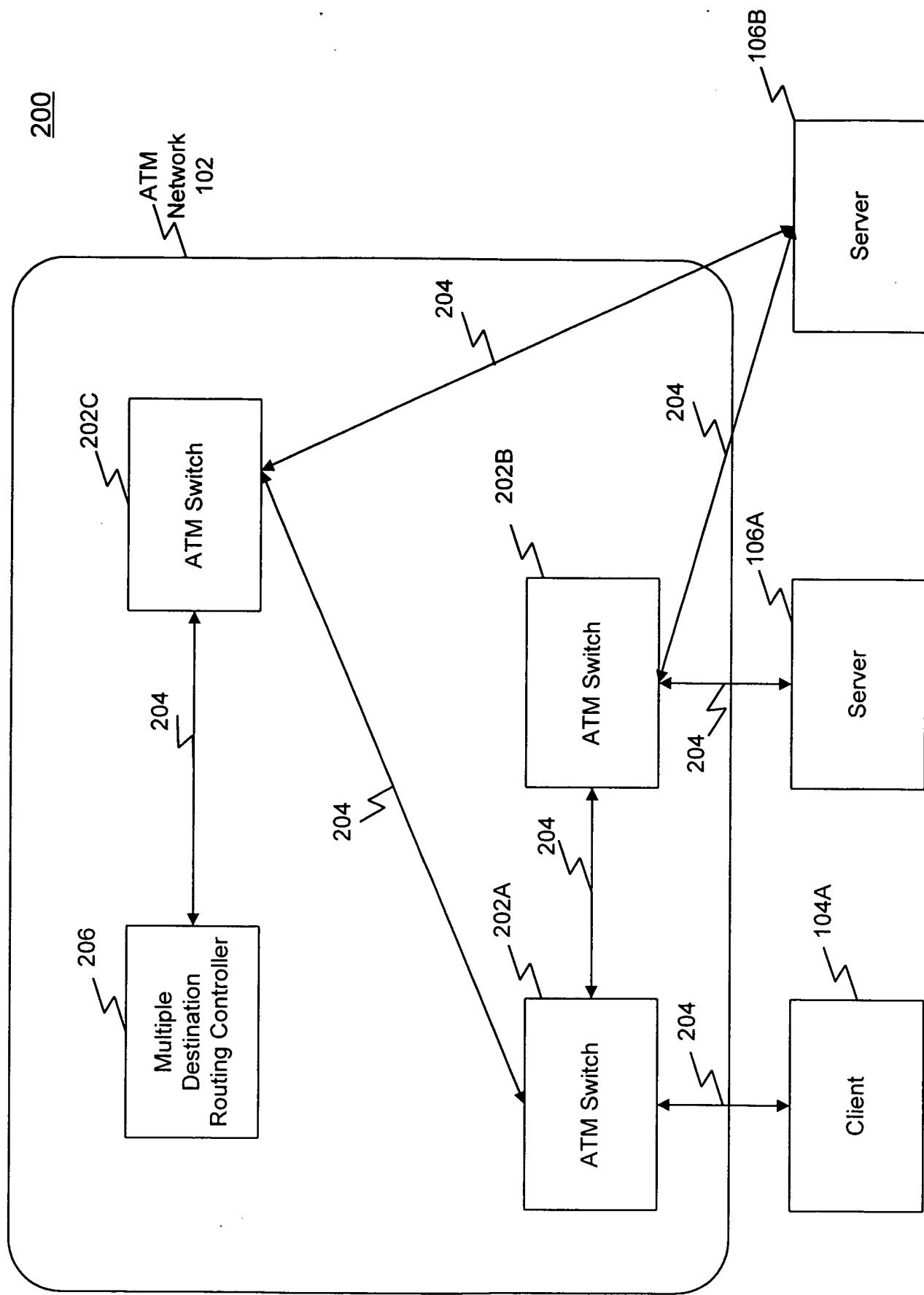
5

A148-03.WPD



**FIG. 1**

200



Figures.vsd3

**FIG. 2**

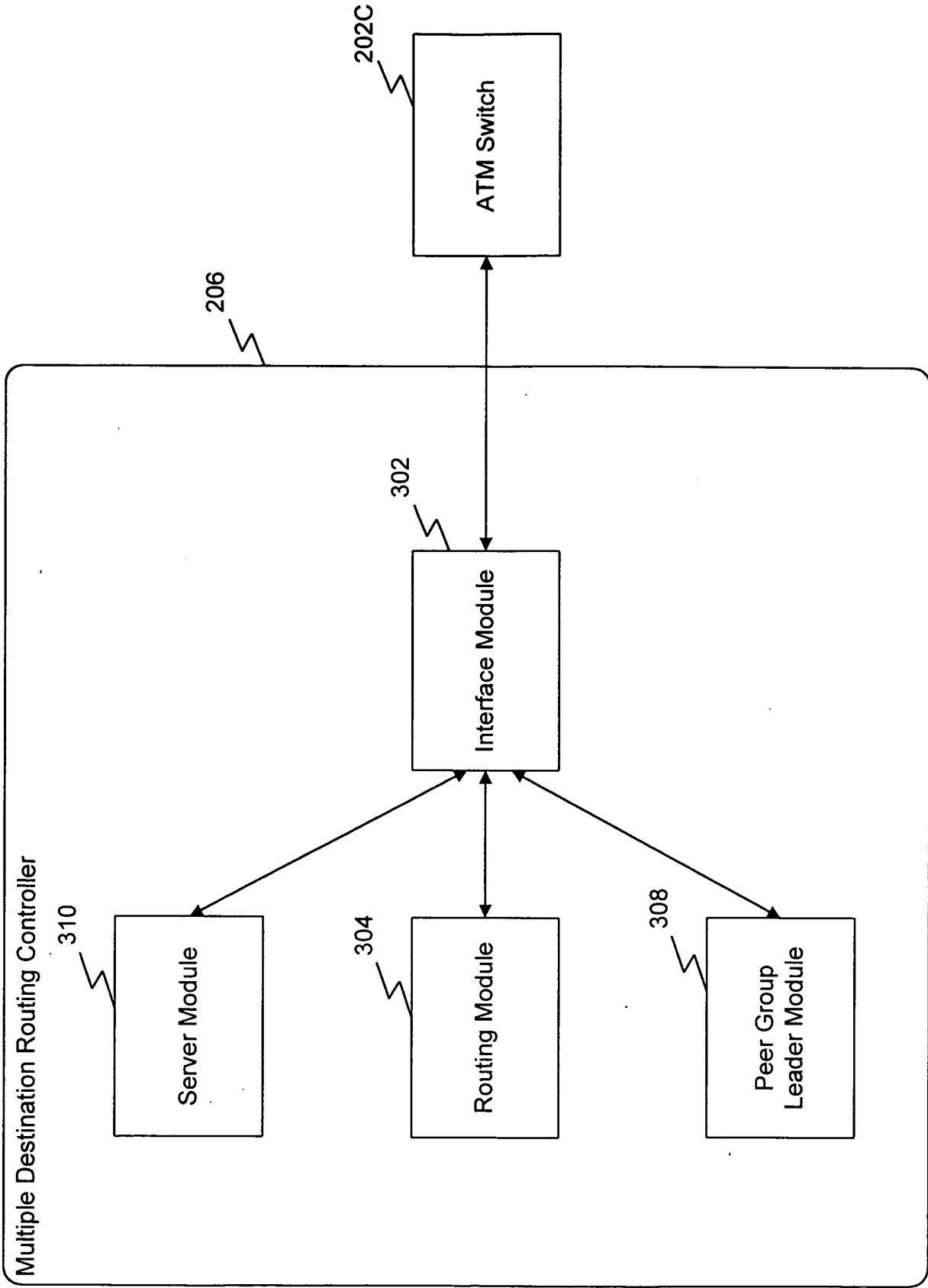
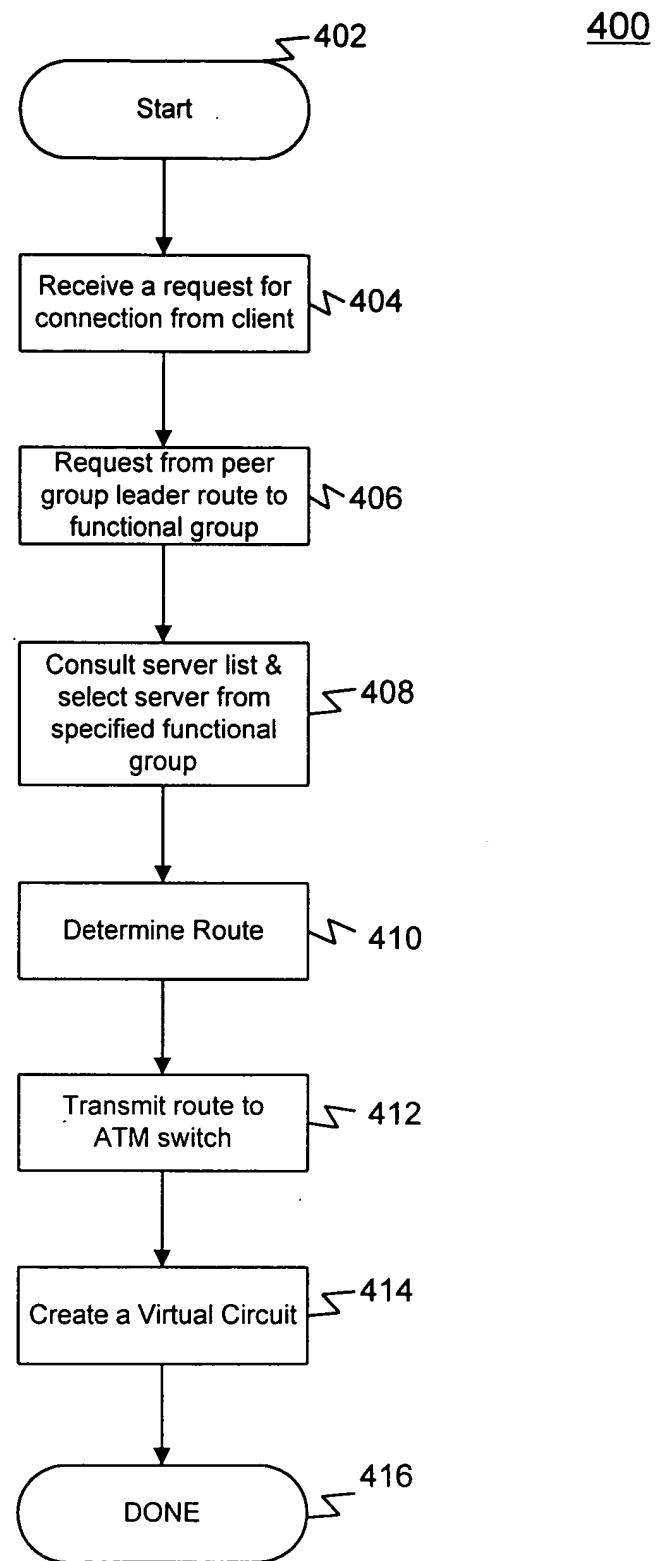
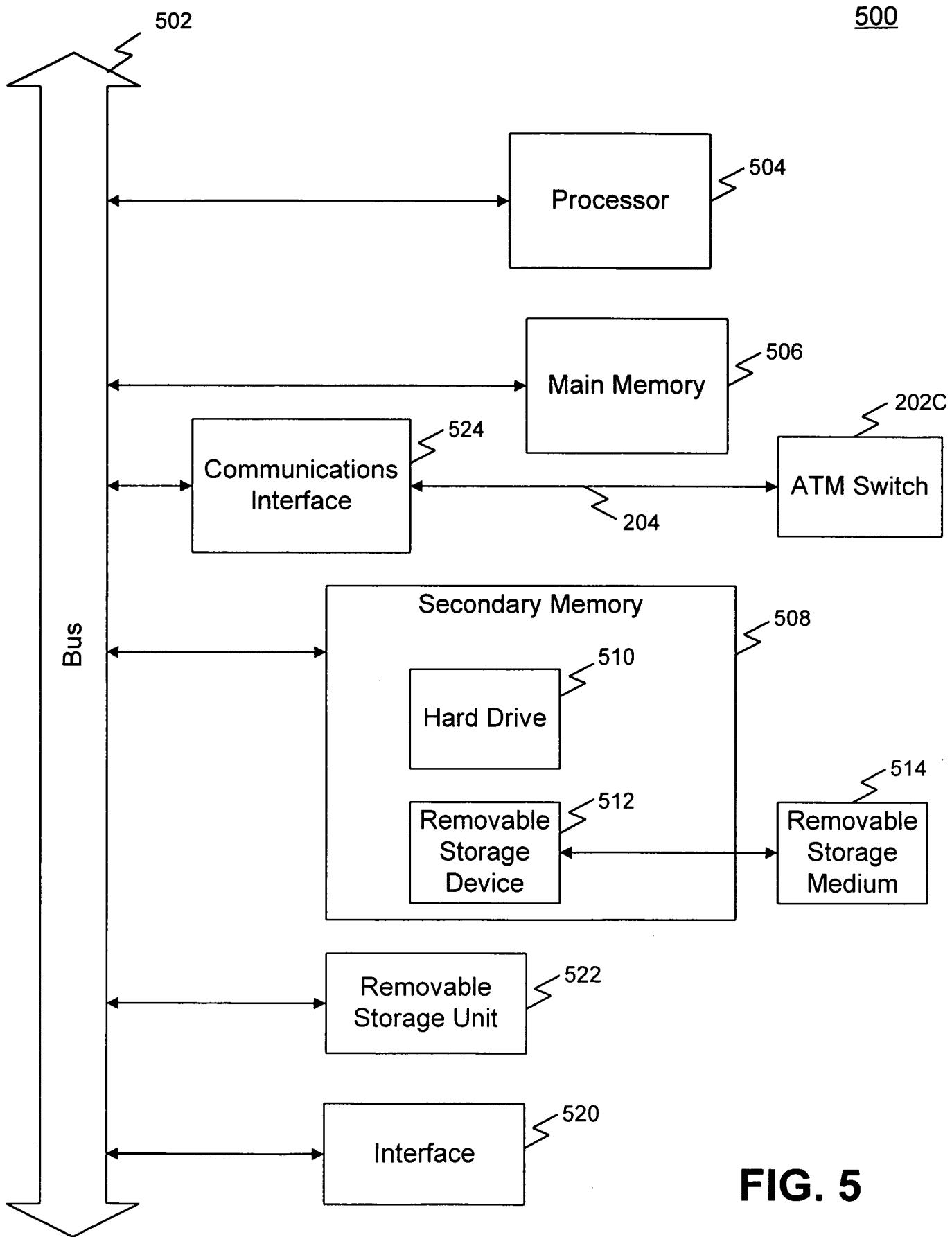


FIG. 3



**FIG. 4**



FILING RECEIPT



UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office  
ASSISTANT SECRETARY AND COMMISSIONER  
OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTORNEY DOCKET NO.	DRWGS	TOT CL	IND CL
09/002,187	12/31/97	2786	\$0.00	RIC-96-161	5	29	4

TECHNOLOGY DEPARTMENT  
MCI COMMUNICATIONS CORPORATION  
1133 19TH STREET, NW  
WASHINGTON DC 20036

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Application Processing Division's Customer Correction Branch within 10 days of receipt. Please provide a copy of the Filing Receipt with the changes noted thereon.

Applicant(s)

DAVID S. HAYES; RANDY HABERMAN; STEVE HERLOCHER.

FOREIGN FILING LICENSE GRANTED 04/01/98

TITLE

SYSTEM AND METHOD FOR ESTABLISHING A VIRTUAL CIRCUIT IN AN ATM NETWORK

PRELIMINARY CLASS: 364

LICENSE FOR FOREIGN FILING UNDER  
Title 35, United States Code, Section 184  
Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "FOREIGN FILING LICENSE GRANTED" followed by a date appears on the reverse side of this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.11. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related application(s) filed under 37 CFR 1.62 which meets the provisions of 37 CFR 5.15(a). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations, especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR Parts 121-128) ); the Office of Export Administration, Department of Commerce (15 CFR 370.10 (j) ); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "FOREIGN FILING LICENSE GRANTED" DOES NOT appear on the reverse side of this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).